

# DOWNLOAD PDF PROBLEMS RATHER THAN A DIVISION OF THE PROBLEM INTO SPECIFIC

## Chapter 1 : Partial quotient method of division: introduction (video) | Khan Academy

*proactive rather than reactive, meaning it involves recognizing problems and seeking their underlying causes. Eck and Spelman (, XV) defined problem-oriented policing more concisely as a departmental-wide strategy aimed at solving persistent community problems.*

If five pizzas are shared equally among four people, how much pizza does each person get? Solve this problem with partitioning. Bill has 12 pennies, which he shares equally with 4 children. Draw a set of 12 circles to represent the 12 pennies, partition it to show the equal shares, and shade the circles that represent one share. What fraction of the penny whole does this represent? How many pennies are in this fraction of the whole? Draw a large circle to represent a pizza. Partition the pizza to show 4 equal shares, and shade one share. What fraction is this of the whole pizza? What differences do you see in the partitioning that you did in Exercise 1 as compared to that in Exercise 4? What difficulties do you think children might have with these tasks? Learning about Rational Numbers: In one sense its interpretation is simple; the 5 tells how many parts a whole is partitioned into while 3 tells how many of these are considered. In this consideration the 3 and the 5 each are separate and distinct numbers. What instructional experiences will help the child to develop this notion? What tasks can be used to assess whether the child has this notion? When the child begins to study rational numbers he or she already has a good understanding of whole numbers. The child initially understands them in terms of size, both in a relative and absolute sense. The child has a sense of how big 3 and 5 are, that 5 is two greater than 3. There are at least two important relationships between 3 and 5; one is additive, the other is multiplicative. FIGURE While the first part of this task was easy, the investigators were surprised to find the amount of difficulty the second diagram posed for many children. The extra horizontal line represented a significant perceptual distractor for them. Children will mentally "put in" and "take out" the line. During 18 weeks of project teaching experiments with fourth-grade children in two locations, the RNP emphasized the use of manipulative aids and considered five topics. The children modeled these ideas using materials, pictures, symbols, and verbal descriptions. Each child was given individual assessment interviews on 11 separate occasions. The interviews were conducted approximately every 3 weeks during the week instructional period. Each interview was audio taped or videotaped and later transcribed. During these RNP interviews children were asked to order decide which is greater fractions of three basic types: Analysis suggested five or six different strategies were used by children for each of the three types of conditions. The majority of these were valid strategies and in some way recognized the relative contributions of both numerator and denominator to the overall size of the fraction. In some cases, however, children focused only on the numerator or only on the denominator and as a result made incorrect conclusions. This is called the transitive strategy. In what ways is this a positive thing and in what ways is it a negative? Design some tasks about fractions. Include a perceptual distractor in some but not in the others. Give the tasks to children and observe and discuss their performance. It seems essential that children be able to answer questions about the order or equivalence of two rational numbers to have an understanding of the meaning of operations with addition, subtraction, multiplication, and division of fractions. Teaching, suggestions for developing this important concept are in a later section of this chapter. Another task, which proves to be a challenge to children, called Construct-the-Unit requires the child to construct the unit-whole from a given fractional part. It is the reversal of the problem of finding a fractional part of a unit-whole, and although important, it is almost never included in the elementary school fraction-related curricula. We consider this reversal task important from a point of view consistent with Piagetian psychology. Piaget suggests the understanding of a process is greater when a child is able to see that the process can be reversed to return to the starting point. In this case the process of finding a fraction of a whole can be reversed to find the whole of which a fraction is part. A typical task was given as: Or in a discrete context: Some explanations indicated the child was not aware that the fractional part is composed of, or decomposable to, unit-parts or unit-fractions equal in number to the numerator. Another

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explanation suggested that the child used the given fractional part as the unit whole or used the fractional part as a unit fraction. Partitioning Behavior The concept of partitioning or dividing a region into equal parts or of separating a set of discrete objects into equivalent subsets is fundamental to an understanding of rational numbers. Polhier and Sawada investigated the development of this skill from kindergarten to third grade. The basic finding of this interesting study is that partitioning ability develops gradually through a succession of five stages. A child first learns to partition in two. This is followed by the ability to perform successive halvings so that partitioning in 4, 8, 16, and so forth can be accomplished. This is followed by the ability to make other even-numbered partitions such as 6 and Partitioning the whole into an odd number of parts follows when a child first observes that a cut other than that which divides in two equal parts is possible. After this discovery is made, the ability to partition into 3, 5, 7, or an odd prime number of parts is possible for the child. Finally, the ability to partition into a number of parts that is a product of two odd numbers, such as 9 and 15, follows. Read and discuss the article by Pothier and Sawada see references. Discuss ways to help children learn to partition into thirds and fifths. Fold a paper in half. What do you do to it to get it folded into four parts, eight parts? Do you think it is easy for children to do this? Try it with children. In the learning of the fraction concept it is important that a child has actual physical experience with partitioning; later just imagining partitioning will suffice and may ultimately be desirable. In this section we will demonstrate manipulative aids the teacher will find useful in helping children learn about fractions. Two of these aids, paper folding and centimeter rods, are called continuous models; the other, counting chips for example, game chips such as poker chips , is called a discrete countable model. The concept of a whole underlies the concept of a fraction. We will refer to a whole also as unit, or unit-whole. At this point, you should think carefully about the different kinds of knowledge the child needs to partition discrete and continuous units. For a continuous unit, one object is made into three parts, and each part is a single continuous connected entity. This singleness, continuity, and connectedness are evident to the child perceptually and therefore are likely to be conceptually evident as well. On the other hand, for the discrete set of 12 apples, each equal-sized part equivalent subset consists of four separate, nonconnected objects. That is, the 12 objects must become a conceptual entity. It is difficult for some children to understand initially that each part has four subparts in it. While the research does not provide clear-cut suggestions about this matter, we recommend the fraction could be developed on the basis of continuous models and then a transfer can be made to discrete models. We also recommend children be given the opportunity to partition various objects. For example, partition a sheet of paper into two equal parts, later into four equal parts, then eight. Young children will need some special guidance in partitioning paper into an odd number of parts. Where to make the first cut, other than in the middle, needs to be given special attention. Similarly, children can be given sets of 4, 8, or 12 counting chips and asked to partition these sets into four parts. After a child has made the partitioning into four parts, an important activity is for the child to designate that is, show the teacher and other children what is one part, two parts, three parts, and four parts. By the way, these early experiences include more involved challenges see Fig. Take a standard size sheet of paper. Ask the children to fold the sheet in either of the two ways suggested by a dotted line as shown in Fig. When the paper is folded, it looks like the picture in Fig. Now have the children fold the paper again. The second fold can be accomplished in more than one way, as shown in Fig. After the second fold is made in accordance with one of the patterns shown in Fig. Next, the child should be asked to unfold the paper; the result will look like one of the three designs shown in Fig. Then the child should be asked to show one, two, three, and four parts. A challenge activity would be to continue folding any one of the results shown in Fig. Try them with children and discuss your observations. Fold a rectangular sheet of paper so that the folds make a pattern like . Do you think children would have difficulty understanding this? Using Partitioning to Show Fractions In this section we will show how partitioning is used in showing fractions in the part-whole interpretation of rational numbers. Using the rectangles partitioned into four parts as shown in Fig.

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## Chapter 2 : Teaching Rational Number and Decimal Concepts

*a. new problems arise during the OD process b. the presenting problem may just be a symptom rather than the real problem c. the client may not reveal the problem.*

The Problems with Problem Lists In January the federal government launched its meaningful use program, based around a set of standards designed to ensure that healthcare providers adopt electronic health records EHRs that can produce better health outcomes. One criterion focuses specifically on the problem list and requires eligible providers and hospitals place all patients on a common dictionary through coding. A common dictionary will help facilitate future decision support tools and prepare the problem list for upcoming health information exchange. While a coded platform will be a step in the right direction, it unfortunately will not be enough to create problem lists that fully support the needs of modern medicine. The future of the problem list needs to move beyond coding to standardization of content and utilization. Why Is the Problem List Important? The problem list was originally created by Lawrence Weed in the s as part of his recommendation for a problem-oriented medical record. A simple idea, the problem list soon became a commonly accepted part of the medical record and is used in most EHRs today. At a high level the problem list states the most important health problems facing a patient. The problem list offers four major benefits to patient care. In the office, the problem list helps practitioners identify the most important health factors for each patient, allowing for customized care. Beyond the patient visit, the problem list can be used to identify disease-specific populations. It is easy to run data analysis and find all patients with a common illness through coded problems in an EHR. This application can be particularly useful for quality improvement programs. For instance, health centers conducting quality improvement efforts can rely on problem lists to identify their disease-specific patient populations, provide follow-up care, and ensure all patients are receiving care that meets best practices in treatment. The problem list also can be the basis for determining standard measures or report cards in healthcare for both individual practitioners and healthcare institutions. Practitioners and healthcare organizations are often judged by treatment statistics that involve a certain percentage of patients receiving recommended tests and treatments. The problem list can provide the denominator for these statistics. Finally, the problem list can be used to identify patients for potential research studies. Unfortunately, the exclusion of a diagnosis from the problem list comes at the expense of the patient. The quality improvement effort at the healthcare center then passes over Sally, and she never is reminded to come in for an annual check-up with her pulmonologist. Sally also misses out on a new research study that offered free medications because she was never identified as a potential candidate. Although a tiny part of the landscape in the medical record, the problem list can play a significant role in patient care. What Should Be on the Problem List? If asked to define the problem list, practitioners would likely give similar, but not identical, responses. For instance, practitioners at a Boston-area health center said: The first quote points to a more conservative version of the problem list that encompasses only past and existing diagnoses. This is the official definition used in the federal meaningful use program. As such, the conservative problem list likely will become the most prominent version nationally. In comparison, the second and third statements indicate a much broader view of problem lists that includes expanded categories such as undiagnosed symptoms, hospitalizations, surgeries, and social and family histories. Both the comprehensive and expanded versions have their respective pros and cons. The argument against the expanded problem list is lengthiness, which makes finding the most important facts quickly difficult. On the other hand, the expanded problem list allows practitioners greater leeway to include personalized content for each patient. With trade-offs in patient care for both small and large scopes of the problem list, this is one area where practitioners will strongly disagree. What Are Worthy Problems? Beyond the broad categorical determinants, another major point of debate concerns what diagnosed illnesses are worthy of the problem list. Currently the decision of which problems are included or excluded remains largely the determination of practitioners. While one practitioner may argue that chicken pox is a relevant problem for

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assessing risk for shingles and the need for a chicken pox vaccination, another practitioner can debate that its inclusion adds little value and clutters the list. The inclusion of an illness on the problem list likely will vary by patient as well. Exercise-induced asthma will be important information about a patient on several asthma medications, but it may not be important if the patient is not seeking treatment, takes no related prescriptions, and is not affected by the illness in his or her daily life. Long-term undiagnosed symptoms also fall within this difficult category. A patient may complain of a cough for years but have no clear diagnosis. Yet, if that patient is admitted to the emergency room, such information could be a key clue for determining treatment. Due to the complexity of deciding which health concerns should and should not be included, most healthcare organizations have left these decisions to their practitioners. For relatively healthy patients, problem lists limited to nontransitive illnesses are typically less than five items. Completeness versus length is currently decided by the personal preferences of practitioners and will be one of the hardest compromises to find in any standardized problem list.

**Managing Sensitive Information** Another debate surrounding problem list content is inclusion of information on highly sensitive issues that may not be need-to-know for every healthcare professional. Healthcare organizations that include a behavioral health division, for example, must determine how much behavioral health information should be shared across the entire organization. This method typically gives enough information to a primary care physician or emergency room practitioner to indicate that underlying behavioral health issues exist, but without going into specifics. At organizations without an official policy, the decision is left to the personal judgment of the practitioner. As the problem list is rarely filtered, the information can be viewed by most departments within the organization that have EHR access. Organizations must carefully consider state and federal patient privacy requirements. Failure to incorporate patient privacy rules into the design of the problem list may cause inadvertent privacy breaches. Therefore, healthcare organizations must clearly define what problems should be included or excluded on a problem list in order to maintain appropriate confidentiality of patient data.

**Specificity of Diagnosis** While coding may give the problem list a common dictionary, EHRs are often designed to allow organizations to map a code to their own terminologies. Therefore, organizations have a choice in the level of precision they want to use for the terms on their problem lists. This decision will ultimately affect the efficacy of the problem list for relaying significant amounts of information quickly. If this diagnosis code is then promoted to the problem list, the hospital could program the EHR to list code While using the more detailed description of the disease is most precise and relays the greatest amount of information, the full description of the disease can also clutter the list and may not actually be any more useful to the practitioner than the acronym. This debate over precision is further exacerbated by the variety of needs of different practitioners. The descriptions and terms a specialist may prefer are not necessarily easily understood by the rest of the medical community. Further, as medical records become accessible to patients through online portals, healthcare organizations will need to consider how to make problem lists both comprehensible to the patient while maintaining their usefulness to the practitioners. Finally, the use of ICD-9-CM billing codes as the backbone to problem list coding comes with its own set of issues that could potentially dilute the accuracy of problem lists. Often problems are promoted to the problem list via billing diagnosis codes selected during a patient visit for insurance purposes. These diagnosis codes often do not reflect clinical information as it is most relevant to providers. Common mistakes include under coding, where practitioners select a diagnosis that is less precise than actually assessed; over coding, where practitioners select a diagnosis that is more precise than assessed; and coding the symptom instead of the disease. These types of mistakes can lead to a cluttered problem list. Just as practitioners differ in the specificity of codes they choose, they also have the option to promote different codes to the problem list that reference the same disease. Under such a situation, the problem list becomes redundant and consequently less useful to practitioners. The continuation of incorrect coding practices ultimately undermines the accuracy of the problem list. This is a significant complication to consider in addressing the precision of language in the problem list.

**Recommendations for Achieving a Coded Problem List** While moving to a standardized problem list needs to be considered, first healthcare organizations will need to meet meaningful use criteria around

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problem lists. To comply, at least 80 percent of all unique patients seen by eligible providers must have at least one entry or an indication of none recorded as structured data. In the summer of a Boston-area health center that primarily engages in outpatient care conducted a study to determine how to best increase its use of coded problems. Following are the main recommendations the organization identified: The health center sees a significant number of patients with no listings in their problem lists. Creation of a healthy code will help clarify the record and boost coding of problem lists over time. Make the selection of coded problems more robust: Analyze the most common free-text terms and make sure they are available as codes. The health center found GERD, osteopenia, and osteoporosis were missing from the dropdown menu of coded terms for the problem list. Further, the center deleted unused terms from the menu to keep the length of the menu manageable. Automatically translate uncoded problems into their equivalent coded problems: Another option is to translate free-text terms such as GERD into their coded counterpart. Conduct problem list training focused on coding: Training even on the simple functionalities, such as adding or deleting problems to the problem list, could make a big impact on the completeness of both the problem list and the use of coding. Decide on standards for content and utilization: Clinical leadership must decide on the standards for how the problem list should be used. This includes the involvement of the medical records committee to determine questions such as who is responsible for the problem list and what it should include. Through standardization, the impediments to coding can be further addressed, and the use of problem lists can be promoted. Create a warning when free text is entered: If a practitioner does use free text in the problem list, an alert reminding the practitioner to use a proper code or, even better, a warning that detects the coded equivalent to the problem, would help eliminate unnecessary free text. Practitioners noted that many of the terms are not intuitive and thus are difficult to find. Dual dictionary use could help increase coding the problem list, as problems are often generated from the diagnosis during the patient encounter. Integrate search option by vernacular language: Adding search boxes that map vernacular terms to their appropriately coded problem counterpart would ease the use of coded terms in the problem list. At the health center, the option for free text on the problem list is front and center. Moving the button to a less convenient location within the problem list page will help practitioners consider using the coded terms before taking the easier free-text route. Currently at the health center, only a selection of problems are promotable to the problem list from the diagnosis page. Without organizational defined limits on what should or should not be on the problem list, practitioners should have the option to promote and consequently code any diagnosis to the problem list.

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### Chapter 3 : The Problems of the World Today

*Or, you could also introduce word problems involving multiple mathematical operations (e.g., "A seat stadium is divided into 3 sections. There are seats in Section 1, and there are more seats in Section 2 than in Section 3.*

In reality, mathematics encompasses a wide variety of skills and concepts. Although these skills and concepts are related and often build on one another, it is possible to master some and still struggle with others. For instance, a child who has difficulty with basic multiplication facts may be successful in another area, such as geometry. An individual student may have some areas of relative strength and others of real vulnerability. In recent years, researchers have examined aspects of the brain that are involved when children think with numbers. Most researchers agree that memory, language, attention, temporal-sequential ordering, higher-order cognition, and spatial ordering are among the neurodevelopmental functions that play a role when children think with numbers. These components become part of an ongoing process in which children constantly integrate new concepts and procedural skills as they solve more advanced math problems. For children to succeed in mathematics, a number of brain functions need to work together. Children must be able to use memory to recall rules and formulas and recognize patterns; use language to understand vocabulary, instructions, and explain their thinking; and use sequential ordering to solve multi-step problems and use procedures. In addition, children must use spatial ordering to recognize symbols and deal with geometric forms. Higher-order cognition helps children to review alternative strategies while solving problems, to monitor their thinking, to assess the reasonableness of their answers, and to transfer and apply learned skills to new problems. Often, several of these brain functions need to operate simultaneously. Experience a multi-step problem. Because math is so cumulative in nature, it is important to identify breakdowns as early as possible. Children are more likely to experience success in math when any neurodevelopmental differences that affect their performance in mathematics are dealt with promptly -- before children lose confidence or develop a fear of math. Competence in mathematics is increasingly important in many professions see sidebar. It also encompasses problem solving, communicating about mathematical concepts, reasoning and establishing proof, and representing information in different forms. Making connections among these skills and concepts both in mathematics and in other subjects is something students are more frequently asked to do, both in the classroom setting, and later in the workplace. For specific information about the range of skills and concepts in school mathematics, please visit the Principles and Standards for School Mathematics on the National Council of Teachers of Mathematics Web site. Math and Memory Memory may have a significant impact on thinking with numbers. Mel Levine points out, "Almost every kind of memory you can think of finds its way into math. These facts must be recalled accurately, with little mental effort. Procedural memory is used to recall how to do things -- such as the steps to reduce a fraction or perform long division. Experience a problem with basic facts. In a way, active working memory allows children to hold together the parts of math problems in their heads. For example, to perform the mental computation  $11 \times 25$ , a child could say, "10 times 25 is and 1 times 25 is 25, so adding with 25 gives me Pattern recognition also is a key part of math. Children must identify broad themes and patterns in mathematics and transfer them within and across situations. When children are presented with a math word problem, for example, they must identify the overarching pattern, and link it to similar problems in their previous experience. Finally, memory for rules is also critical for success in math. When children encounter a new problem, they must recall from long-term memory the appropriate rules for solving the problem. For example, when a child reduces a fraction, he or she divides the numerator and the denominator by the greatest common factor -- a mathematical rule. Memory skills help children store concepts and skills and retrieve them for use in relevant applications. In turn, this kind of work relating new concepts to real-life contexts enhances conceptual and problem-solving skills. To solve the problem, "If there are six children, each with one pair of shoes, how many shoes in total? Math and Language The language demands of mathematics are extensive. In addition to understanding the meaning of specific words and sentences, children

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are expected to understand textbook explanations and teacher instructions. Math vocabulary also can pose problems for children. They may find it confusing to use several different words, such as "add," "plus," and "combine," that have the same meaning. Other terms, such as "hypotenuse" and "to factor," do not occur in everyday conversations and must be learned specifically for mathematics. Sometimes a student understands the underlying concept clearly but does not recall a specific term correctly. Math and Attention Attention abilities help children maintain a steady focus on the details of mathematics. For example, children must be able to distinguish between a minus and plus sign -- sometimes on the same page, or even in the same problem. In addition, children must be able to discriminate between the important information and the unnecessary information in word problems. Attention also plays an important role by allowing children to monitor their efforts; for instance, to slow down and pace themselves while doing math, if needed.

Temporal-Sequential Ordering and Spatial Ordering While temporal-sequential ordering involves appreciating and producing information in a particular sequential order, spatial ordering involves appreciating and producing information in an appropriate form. Each plays an important role in mathematical abilities. Levine points out that "Math is full of sequences. Sequencing ability allows children to put things, do things, or keep things in the right order. For example, to count from one to ten requires presenting the numbers in a definite order. When solving math problems, children usually are expected to do the right steps in a specific order to achieve the correct answer. Recognizing symbols such as numbers and operation signs, being able to visualize -- or form mental images -- are aspects of spatial perception that are important to succeeding in math. The ability to visualize as a teacher talks about geometric forms or proportion, for example, can help children store information in long-term memory and can help them anchor abstract concepts. In a similar fashion, visualizing multiplication may help students understand and retain multiplication rules. The Developing Math Student

Some math skills obviously develop sequentially. A child cannot begin to add numbers until he knows that those numbers represent quantities. Certain skills, on the other hand, seem to exist more or less independently of certain other, even very advanced, skills. A high school student, for example, who regularly makes errors of addition and subtraction, may still be capable of extremely advanced conceptual thinking. The fact that math skills are not necessarily learned sequentially means that natural development is very difficult to chart and, thus, problems are equally difficult to pin down. Learning specialists, including Dr. Levine, pay close attention to these stages in hopes of better understanding what can go wrong and when. Levine outlines many of these milestones for four age groups, pre-school through grade Additional information about milestones and K math curriculum is available on The National Council of Teachers of Mathematics Web site. Pre-school - Kindergarten During this stage, children should begin to:

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### Chapter 4 : Long Division with Remainders | Wyzant Resources

*In its search for a solution, the Oil Spill Recovery Institute framed the problem as one of "materials viscosity" rather than "oil cleanup" and used language that was not specific to the.*

We stand at the Abyss, at the steadily approaching threshold of unimaginable chaos, calamity, death and destruction. But there exists a lasting solution to these issues facing humankind. This chapter is about the problems that we, together as the human race, face in present times. It concerns some of the ominous circumstances of the current age that threaten not only the well being of collective humanity but also, perhaps, the very Environmental and Ecological systems that support life on Earth as we know it today. So what are these most significant problems of the World? I find it useful to group these very major issues into four broad categories. The first category relate to the Environmental and Ecological problems of the World. Which includes issues relating to ecological destruction, resource depletion and atmospheric change, i. I also included in this category the problem of over population which exacerbates these environmental issues though this might equally well be considered as a Social and Political problem. The second category relates to the Problems in the Social, Economic and Political Spheres of human activity. We live in a World partly characterized, unfortunately, by corruption, oppression, exploitation, conspiracy and injustice. And a world riddled with division, conflict, terrorism and mutual distrust. The third category concerns the spiritual problems of present times. This relates to the issues surrounding the process of Secularization and the reaction of Religion in the face of the rise of Scientific Rationalism, i. The fourth and final category concerns the problems of the age relating to the realm of ideas. That is the problems and puzzles which vex Scientists, Philosophers and Theologians. At first it may seem a little incongruous to consider these more academic problems in the same discussion as some of the more apparent issues mentioned earlier i. Towards the latter part of this Chapter I show how ideas, and one idea especially, have the power to potential produce a lasting solution to the problems of this World. So we shall now examine each of these problem categories in more detail..

**A Planet in Peril** It is generally acknowledged that in the World today there are potentially calamitous problems relating to environmental destruction, resource depletion, global warming and over population. The natural resources of this planet, its forests, fisheries and crop lands are already being used at such a rate that is unsustainable. We are already using the planets renewable resources faster than what the planet can replenish. This trend is related to the ongoing and accelerating process of species extinction and the destruction of natural habitats such as the tropical rainforests, whole ocean ecosystems, rivers and coastal wetlands. This gradual destruction of the earths biosphere, its animal and plant species together with their complex webs of self sustenance, is certainly set to continue as human population growth and increased economic activity imposes more pressures on the planetary ecosystem. The worlds population at an estimated 7 billion people today, is projected to grow to over 10 billion people as early as This is coupled with massive growth in economic activity lead by the surging economies of China and India and further boosted by economic growth in the rest of the World as well. If the Planet is already struggling to cope with the demands placed upon it by the human race currently, when we also factor in these other considerations, then certainly we are heading for some interesting times. Also food shortages and food price hikes that were experienced by the World in may be the shape of things to come.

**Global Warming** Another major problem that looms on the horizon and one that probably is already upon us and exerting its effects, is the phenomenon of Global Warming. This is made manifest in the melting glaciers and polar ice caps, the increase in hurricane activity with category 4 and 5 hurricanes, the most intense, doubling in frequency over the past 50 years , changing rainfall patterns and of course the actual increases in measured surface temperatures. The majority verdict of the scientific community points towards the notion that Global Warming is at least partly man made and brought about through the emissions of so called green house gases such as methane and carbon dioxide, which causes the earths atmosphere to retain more heat. Also based on computer climate models, it is projected that Global Warming

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will continue with potentially dire consequences for vast numbers of people living on this planet. These predictions vary with some scenarios describing temperature rises of 1 or 2 degrees centigrade coupled with sea level rises of 80cm or so. Other models predict temperature rises of 3 to 5 degrees centigrade coupled with sea level rises of 7m! At the extreme end we find truly doomsday scenarios where the earth's atmosphere is changed to such an extent that it becomes similar to that of the planet Venus, with surface temperatures way above the boiling point of water, that is degrees celsius together with sulphuric acid rain. Though seemingly far fetched, the world renowned scientist Stephen Hawking cited this scenario as a distinct future possibility. Even without considering these future predictions we are already being affected by climate change in a way that is detrimental to human life and well-being. It is estimated that over 27,000 died as a direct result of the freak heat wave that was experienced over Western Europe. Those that died were many the very old and the very young. The deaths that have resulted from crop failures in The Third World, brought about as an indirect consequence of climate change, may number into the millions. Hurricane Katrina which a few years ago hit the Southern coastal city of New Orleans in the USA is estimated to have killed over 100,000 people. Water Scarcity A problem that is related to Global Warming concerns the availability of water resources to the world's people. It has been estimated by the United Nations that due to population growth, pollution and global warming the average person's water supply will be cut by a third over the next 20 years. Even in Australia which at the time of writing this, is in a drought that has lasted 6 years, is facing the ruin of large swathes of its agricultural industry. It has been said by strategists that in the future wars will be fought over water, this most essential of requirements for sustaining life. Peak Oil, Peak Gas and Peak Uranium A serious problem looming over the horizon is that of fuel shortages due to the peaking in production and subsequent decline in output of three of the world's most important energy sources, that is Oil, Gas and Uranium Ore. At the same time the world demand for the same commodity will either grow or remain constant thereby producing a supply shortfall, pushing up prices and producing a state of scarcity for that resource. This can lead to Political instability, Economic problems and even War when countries use force of arms to try to secure their energy supplies. The dates for these eventualities are around 2020 for Peak Oil, though some commentators think we have already got there. The estimates for the time of Peak Gas range from around 2030 to 2040 and that for Peak Uranium at around 2050. It is characterized by an integration and coming together of all the people and spheres of human activity around the world through trade, economic integration, political union and cultural exchange. This process of the coming together of humanity is facilitated by modern technologies such as the Internet, the Jumbo Jet and the other facets of the world logistical transport and communication system, which is gradually making into a single entity the entire human race. However this coming togetherness of humanity is accompanied by a host of difficulties and seemingly intractable problems that derive partly from cultural, ideological and religious differences, but also from the perceived injustices of this world, its iniquity and the exploitative nature of some international relationships. Though humanity is coming together, we still live in a world of ideological and religious differences, mutual distrust and enmity. A world of racial and ethnic disharmony and one characterized by massive disparities in wealth and availability or access to the basic resources needed to sustain human life. These are the roots that give rise to some of the problems of the Coming One World Order. This second problem category relating to the Coming One World Order really concerns all the problems of this World relating to issues of Political, Economic and Social organization and behaviour. This problem category would include problems arising from social divisions, either racial, religious or national etc. Then are general problems relating to tyranny, oppression, social injustice and inequality. It is the case that the coming One World Order or Global Village can be accurately described as a Social, Economic and Political entity; naturally therefore it would seem sensible to group these Social, Economic and Political problems of the World under a single category. Global Terrorism We are faced with the problem of Global Terrorism which has been called the shadow of the process of Globalization. As the world is becoming one place, so it is that the effects of terrorism have global effects. Also it may be understood that the causes of this global terrorism are likewise global in nature, with disaffected individuals and groups caught up in ideologies of global scope

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and participating in causes that transcend international and even inter-continental barriers. We see this particularly in the Muslim world, where issues in Palestine, Bosnia, Afghanistan or Iraq can mobilize people on the other side of the world to want to make interventions. This process is followed by international powers such as the United States, which in order to protect its people and economic interests, is compelled to make its own global interventions to counteract perceived threats and in the process perhaps exacerbating the problems these measures were designed to remedy in the first place. Globalization and Problems of Economic Integration A major facet of globalization is the massive increases in international trade that we have witnessed in recent years. The benefits of international trade are many, i. So generally speaking international free trade is a good thing. There are however problems which accompany this increased global flow of goods, services, ideas and people. Even though international trade benefits the vast majority of people in this world overall, there will at the same time be winners and losers. In a globally competitive market place some firms, those that have the most attractive products and services, will see an increase in business. While those with products and services that are less appealing to the consumer will see decreases in demand for their output and will be forced to improve, diversify or else go bust. Also the same is true for entire nations. Countries which have established entire industries in for example coal mining, car manufacture or certain types of agricultural produce, may find these sectors of their economies under threat in a world market. Other nations may enjoy competitive advantages in these industries which allow them to produce more efficiently, more cheaply or to a higher standard, thus enabling them to win out in the market place. This competitive pressure is often cited as one of the benefits as firms and corporations focus their efforts on making their products and services better. The winner of this process is the consumer on a local, national and international level. However there are limits to how far individual firms and certain industries of specific nations are able to compete and so inevitably firms will go bankrupt and countries may have entire industrial sectors decimated. This results in painful transitions and people losing their jobs. Sometimes the effects can be severe causing mass unemployment and serious social upheaval. One of the direct results of globalization and the international market is the flow of labour around the world as people migrate to find work. This mass migration of people is made up of those people going to countries where their skills are most in demand and those people who are escaping poverty and countries with high unemployment. This is accompanied by problems of labour exploitation and difficulties arising from the integration of guest workers into foreign lands. Also friction can emerge from the competition for jobs and resources such as housing, between local populations and the migrants. There are many other problems relating to the planet wide economic integration, but it is beyond the scope of this article to go into all of these in any depth. A brief list of these issues might include things like unfair trade practices, tariffs, quotas and government subsidies. It concerns the distinct possibility that all of humanity is being brought together into an all encompassing and planet wide tyranny. This is a serious problem if the entire human race is brought under the control of a tiny self serving minority at the expense of individual freedoms and the greater good of the majority. The modern economic system is one where the rich tend to become even richer and further consolidate and extend their economic power through the exercising of political power. In a world where political power is increasingly self serving, gained through financial power and used for financial gain, then certainly it is true that economic power also buys political power. It would appear that we are perhaps heading towards a corrupt One world tyranny, headed by a dynastic elite, who may one day have total control over the Political, Judicial, Economic, Law enforcement and Military institutions of the entire World; perhaps even key Religious ones as well. This may seem the stuff of conspiracy theories but without a doubt economic and political advantage is gained through unscrupulous and devious means which have to be kept secret from the wider public. However it is true that a part of the human makeup is a certain fixation on power, influence and status. And certainly humans spend a lot of time, energy and resources to come up with ways and means to gain power over other humans. So if we take this human tendency, extrapolate it to a global scale and take it to its logical conclusion, then it is not unreasonable to conjecture that there are those who, if given the opportunity, would like to rule the World. Also given that the World is

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gradually becoming one economically and politically integrated unit, together with all the ingenious, corrupt and conspiratorial means through which power may be obtained, extended and consolidated; then an evil self serving world tyranny is definitely a distinct possibility. The Universal Decline of True Religion and the Rise of replacement Doctrines We turn now to consider some of the difficulties of this World relating to matters of Religion and Spirituality. Of course all through history there have always been problems associated with Religion. What makes the present situation unique are the unprecedented conditions which have come about through the equally unprecedented rise of Scientific Rationalism over the past few centuries, accompanied by emergence of the modern technological age.

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### Chapter 5 : Misunderstood Minds . Basics of Math | PBS

*Many times it helps to work problems from the inside out, rather than left-to-right, because often some parts of the problem are "deeper down" than other parts. The best way to explain this is to do some examples.*

Community policing is perhaps the most misunderstood and frequently abused theme in police management during this decade. In the past few years, it has become fashionable for police agencies to initiate community policing, often with little notion of what that phrase means. Indeed, all manner of organizational tinkering has been labeled community policing. But community policing is not a program. Instead, community policing is a value system which permeates a police department, in which the primary organizational goal is working cooperatively with individual citizens, groups of citizens, and both public and private organizations to identify and resolve issues which potentially effect the livability of specific neighborhoods, areas, or the city as a whole. Community-based police departments recognize the fact that the police cannot effectively deal with such issues alone, and must partner with others who share a mutual responsibility for resolving problems. Community policing stresses prevention, early identification, and timely intervention to deal with issues before they become unwieldy problems. Individual officers tend to function as general-purpose practitioners who bring together both government and private resources to achieve results. Officers are encouraged to spend considerable time and effort in developing and maintaining personal relationships with citizens, businesses, schools, and community organizations. Here are some other common features of community policing: Beyond crime fighting a focus on livability Many police departments and police officers define their role primarily in terms of crime control. The very term law enforcement agency is certainly an indication of this focus. But policing is much more than law enforcement. Officers in community-based police departments understand that "crook-catching" is only one part of their job, and a rather small one by comparison to the myriad of issues and problems they deal with each day. Officers freely accept a significant role in issues that might be derisively referred to as "social work" in traditional police departments. Officers understand that resolving a problem with unruly people drinking at a public park, working to reduce truancy at a middle school, marshalling resources to improve lighting in a mobile home park, and removing abandoned vehicles from streets, may all be forms of valid and valuable police work, which affect the livability of a neighborhood. Rather than treating these activities as diversions from "real" police work, officers understand that this is the essence of their work. Citizen Involvement The police department strives to actively involve citizens in its operations, through a variety of means. Volunteers are widely used, whether college interns or retired seniors. Citizen patrols and crime prevention initiatives are welcomed and encouraged. Area commanders meet often with members of the public to solicit input and feedback. Many internal committees include public participation. Policy decisions typically involve opportunities for input from citizens, and the department has both formal and informal mechanisms for this purpose. Promotional boards include citizens. The department seeks to educate the general public about police work in various ways, including publications, web sites, public-access television, and town hall meetings. The department accepts and even encourages citizen review of its performance. Geographic Responsibility The primary division of labor for the police is geographical. Officers identify with their area of assignment, rather than the work shift or functional division. Commanders are assigned to geographical areas and given wide latitude to deploy their personnel and resources within that area. Individual officers adopt even smaller geographical areas and feel a sense of ownership for that area. Officers seek out detailed information about police incidents which have occurred in their area of assignment during their off-duty time. Long-term Assignment Officers can expect to work in the same geographical area for many years. Rotation of geographical assignments is rare. The organization values the expertise and familiarity that comes with long-term assignment to the same area. Decentralized Decision Making Most operational decisions are decentralized to the level of execution. Field officers are given broad discretion to manage their own uncommitted time. Operational policies are concise, and serve as general guidelines for

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professional practice more than detailed rules and regulations. First line supervisors are heavily involved in decisions that are ordinarily reserved for command ranks in traditional police departments.

**Participative Management** The department employs numerous methods to involve employees at all levels in decision-making. Staff meetings, committees, task forces, quality circles, and similar groups are impaneled often to address issues of internal management. Many workplace initiatives begin with ideas or concepts brought forward from line employees. Obtaining input from frontline employees is viewed as an essential part of any policy decision. The department has comparatively few levels of rank, and rank is seldom relied upon to settle disagreements. Supervisors view their role primarily in providing support to field personnel by teaching, coaching, obtaining resources, solving problems, and "running interference. Officers are expected to handle a huge variety of police incidents, and to follow through on such incidents from beginning to end. Specialization is limited to those areas where considerable expertise is an absolute necessity. Even when specialists are used, their role is to work cooperatively with field officers, rather than assume responsibility for cases or incidents from field officers. Most specialists view their jobs as offering technical expertise and support to field personnel.

**Police Leadership on Community Issues** Senior police managers are deeply involved in community affairs. They speak out frequently and freely on issues of community concern, some of which are only tangentially related to law enforcement per se. Police managers are encouraged to pursue important community issues as a personal cause. Elected officials consult with police managers often. Police representation is obligatory on committees or study groups which are set up to examine significant issues on the public agenda, and it is not uncommon for police officers to serve in leadership positions in community organizations.

**Proactive Policing** The police department employs techniques to manage its workload in order to make blocks of time available for police officers to address identified problems. The police response to an emerging problem typically involves significant input and participation from outside the department. The department routinely uses a range of tactics other than responding to individual incidents, such as:

- Rather than merely responding to demands for police services, the department employees a **Problem-Oriented Policing (POP)** approach: The police response to an on-going or repetitive problem seldom involves only police resources. The police are concerned not only with high-visibility crimes, but with minor offenses which contribute to fear of crime, and negatively effect public perception of city or neighborhood safety.
- Emphasis on Quality** The police define success and accomplishment primarily by the results achieved and the satisfaction of the consumer of services, rather than by strictly internal measures of the amount of work completed. Thus, there may be decreased emphasis on common productivity measures such as clearance rate, numbers of arrests, response time, etc. Thoroughness and quality are clear emphases, but "doing the right thing" is as important as "doing things right.
- Recognition and Professional Development** Officers receive frequent recognition for initiative, innovation, and planning. The department systematically acknowledges problem-oriented policing projects that achieve results. Seasoned field officers are highly valued for their skill and knowledge, and feel little pressure to compete for promotion to supervisory positions in order to advance their career. Commendations and awards go to officers for excellent police work of all kinds, not just crime control. Officers receive the respect and admiration of their colleagues as much for their empathy, compassion, concern for quality, and responsiveness, as for their skill at criminal investigation, interrogation, and zeal in law enforcement.

**What Community Policing is not** Despite the claims of some ill-informed critics, community policing is not soft on crime. Quite the contrary, it can significantly improve the ability of the police to discover criminal conduct, clear offenses, and make arrests. Moreover, though some of these may be used as specific strategies, community policing is not:

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### Chapter 6 : 4 Easy Ways to Do Long Division (with Pictures) - wikiHow

*However, sometimes our division problems will not come out evenly, and we will have another number (not 0) when we do the last subtraction problem. This leftover number is called a remainder, and it is written as part of the quotient.*

The main feminist motivation for making this distinction was to counter biological determinism or the view that biology is destiny. A typical example of a biological determinist view is that of Geddes and Thompson who, in , argued that social, psychological and behavioural traits were caused by metabolic state. It would be inappropriate to grant women political rights, as they are simply not suited to have those rights; it would also be futile since women due to their biology would simply not be interested in exercising their political rights. To counter this kind of biological determinism, feminists have argued that behavioural and psychological differences have social, rather than biological, causes. Commonly observed behavioural traits associated with women and men, then, are not caused by anatomy or chromosomes. Rather, they are culturally learned or acquired. Although biological determinism of the kind endorsed by Geddes and Thompson is nowadays uncommon, the idea that behavioural and psychological differences between women and men have biological causes has not disappeared. In the s, sex differences were used to argue that women should not become airline pilots since they will be hormonally unstable once a month and, therefore, unable to perform their duties as well as men Rogers , More recently, differences in male and female brains have been said to explain behavioural differences; in particular, the anatomy of corpus callosum, a bundle of nerves that connects the right and left cerebral hemispheres, is thought to be responsible for various psychological and behavioural differences. Anne Fausto-Sterling has questioned the idea that differences in corpus callosums cause behavioural and psychological differences. First, the corpus callosum is a highly variable piece of anatomy; as a result, generalisations about its size, shape and thickness that hold for women and men in general should be viewed with caution. Second, differences in adult human corpus callosums are not found in infants; this may suggest that physical brain differences actually develop as responses to differential treatment. Fausto-Sterling b, chapter 5. Psychologists writing on transsexuality were the first to employ gender terminology in this sense. Along with psychologists like Stoller, feminists found it useful to distinguish sex and gender. This enabled them to argue that many differences between women and men were socially produced and, therefore, changeable. That is, according to this interpretation, all humans are either male or female; their sex is fixed. But cultures interpret sexed bodies differently and project different norms on those bodies thereby creating feminine and masculine persons. Distinguishing sex and gender, however, also enables the two to come apart: So, this group of feminist arguments against biological determinism suggested that gender differences result from cultural practices and social expectations. Nowadays it is more common to denote this by saying that gender is socially constructed. But which social practices construct gender, what social construction is and what being of a certain gender amounts to are major feminist controversies. There is no consensus on these issues. See the entry on intersections between analytic and continental feminism for more on different ways to understand gender. Masculinity and femininity are thought to be products of nurture or how individuals are brought up. They are causally constructed Haslanger , And the mechanism of construction is social learning. That is, feminists should aim to diminish the influence of socialisation. Social learning theorists hold that a huge array of different influences socialise us as women and men. This being the case, it is extremely difficult to counter gender socialisation. For instance, parents often unconsciously treat their female and male children differently. When parents have been asked to describe their hour old infants, they have done so using gender-stereotypic language: Some socialisation is more overt: This, again, makes countering gender socialisation difficult. According to Renzetti and Curran, parents labelled the overwhelming majority of gender-neutral characters masculine whereas those characters that fit feminine gender stereotypes for instance, by being helpful and caring were labelled feminine , Socialising influences like these are still thought to send implicit messages regarding how females and males should act and are expected to act shaping us into

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feminine and masculine persons. Instead, she holds that gender is a matter of having feminine and masculine personalities that develop in early infancy as responses to prevalent parenting practices. In particular, gendered personalities develop because women tend to be the primary caretakers of small children. Chodorow holds that because mothers or other prominent females tend to care for infants, infant male and female psychic development differs. This unconsciously prompts the mother to encourage her son to psychologically individuate himself from her thereby prompting him to develop well defined and rigid ego boundaries. However, the mother unconsciously discourages the daughter from individuating herself thereby prompting the daughter to develop flexible and blurry ego boundaries. Childhood gender socialisation further builds on and reinforces these unconsciously developed ego boundaries finally producing feminine and masculine persons , â€” Gendered personalities are supposedly manifested in common gender stereotypical behaviour. Women are stereotypically more emotional and emotionally dependent upon others around them, supposedly finding it difficult to distinguish their own interests and wellbeing from the interests and wellbeing of their children and partners. This is said to be because of their blurry and somewhat confused ego boundaries: By contrast, men are stereotypically emotionally detached, preferring a career where dispassionate and distanced thinking are virtues. Chodorow thinks that these gender differences should and can be changed. In order to correct the situation, both male and female parents should be equally involved in parenting Chodorow , This would help in ensuring that children develop sufficiently individuated senses of selves without becoming overly detached, which in turn helps to eradicate common gender stereotypical behaviours. Masculinity is defined as sexual dominance, femininity as sexual submissiveness: For MacKinnon, gender is constitutively constructed: As a result, genders are by definition hierarchical and this hierarchy is fundamentally tied to sexualised power relations. If sexuality ceased to be a manifestation of dominance, hierarchical genders that are defined in terms of sexuality would cease to exist. So, gender difference for MacKinnon is not a matter of having a particular psychological orientation or behavioural pattern; rather, it is a function of sexuality that is hierarchal in patriarchal societies. This is not to say that men are naturally disposed to sexually objectify women or that women are naturally submissive. Instead, male and female sexualities are socially conditioned: For MacKinnon, both female and male sexual desires are defined from a male point of view that is conditioned by pornography MacKinnon , chapter 7. And male dominance enforces this male version of sexuality onto women, sometimes by force. That is, socialized differences in masculine and feminine traits, behaviour, and roles are not responsible for power inequalities. Females and males roughly put are socialised differently because there are underlying power inequalities. The positions outlined above share an underlying metaphysical perspective on gender: All women are thought to differ from all men in this respect or respects. All women differ from all men in this respect. Being sexually objectified is constitutive of being a woman; a female who escapes sexual objectification, then, would not count as a woman. One may want to critique the three accounts outlined by rejecting the particular details of each account. A more thoroughgoing critique has been levelled at the general metaphysical perspective of gender realism that underlies these positions. It has come under sustained attack on two grounds: If gender were separable from, for example, race and class in this manner, all women would experience womanhood in the same way. And this is clearly false. In fact, the rape of a black woman was thought to be impossible Harris But she failed to realize that women from less privileged backgrounds, often poor and non-white, already worked outside the home to support their families. Spelman further holds that since social conditioning creates femininity and societies and sub-groups that condition it differ from one another, femininity must be differently conditioned in different societies. This line of thought has been extremely influential in feminist philosophy. For instance, Young holds that Spelman has definitively shown that gender realism is untenable , This is a form of political mobilization based on membership in some group e. Feminist identity politics, then, presupposes gender realism in that feminist politics is said to be mobilized around women as a group or category where membership in this group is fixed by some condition, experience or feature that women supposedly share and that defines their gender. In their attempt to undercut biologically deterministic ways of defining what it means to be a woman, feminists

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inadvertently created new socially constructed accounts of supposedly shared femininity. For her, standard feminist accounts take gendered individuals to have some essential properties qua gendered individuals or a gender core by virtue of which one is either a man or a woman. But according to Butler this view is false: First, feminists are said to think that genders are socially constructed in that they have the following essential attributes Butler , These are the attributes necessary for gendered individuals and those that enable women and men to persist through time as women and men. Think back to what was said above: These gender cores, supposedly encoding the above traits, however, are nothing more than illusions created by ideals and practices that seek to render gender uniform through heterosexism, the view that heterosexuality is natural and homosexuality is deviant Butler , Gender cores are constructed as if they somehow naturally belong to women and men thereby creating gender dimorphism or the belief that one must be either a masculine male or a feminine female. But gender dimorphism only serves a heterosexist social order by implying that since women and men are sharply opposed, it is natural to sexually desire the opposite sex or gender. Butler denies this and holds that gender is really performative. Gender is not something one is, it is something one does; it is a sequence of acts, a doing rather than a being. Gender only comes into being through these gendering acts: This activity amongst others makes her gendered a woman. Our gendered classification scheme is a strong pragmatic construction: But, genders are true and real only to the extent that they are performed Butler , 9. And ultimately the aim should be to abolish norms that compel people to act in these gendering ways. For Butler, given that gender is performative, the appropriate response to feminist identity politics involves two things. Rather, feminists should focus on providing an account of how power functions and shapes our understandings of womanhood not only in the society at large but also within the feminist movement. Many people, including many feminists, have ordinarily taken sex ascriptions to be solely a matter of biology with no social or cultural dimension. It is commonplace to think that there are only two sexes and that biological sex classifications are utterly unproblematic. By contrast, some feminists have argued that sex classifications are not unproblematic and that they are not solely a matter of biology. In order to make sense of this, it is helpful to distinguish object- and idea-construction see Haslanger b for more: First, take the object-construction of sexed bodies.

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### Chapter 7 : ACG Sample Problems Chapter 7 Relevant Costing

*From Chapman's point of view, what is the amount of avoidable costs if it buys rather than makes the components? \$44, + \$20, + \$32, = \$96, Problem 15 - Wilson Company is considering replacing equipment which originally cost \$56, and which has \$43, accumulated depreciation to date.*

However, sometimes our division problems will not come out evenly, and we will have another number not 0 when we do the last subtraction problem. This leftover number is called a remainder, and it is written as part of the quotient. Follow along with this example: The red circled number at the bottom our remainder. You do not have to circle the remainder; we just circled ours so that you know which number it is. After you have your remainder, you write it on top of the division bar, with an r in front of it, like this: When your division ends with a remainder, you must make sure that your remainder is less than your divisor. If your remainder is more than your divisor, you need to go back and check your division, because it is incorrect. We can still use our multiplication method to check our division; you will multiply the quotient 25 by the divisor 5 , and then add our remainder to the answer to the multiplication problem, like this: Our answer to this problem is 23 r 1; note that we always write the remainder after the quotient, on top of the division bar. Also notice that our remainder 1 is smaller than our divisor 6. There are also several different ways to write remainders. The standard way is shown above, with an r in front of the number. However, you can also write remainders as fractions and as decimals. Long Division with Remainders as Fractions Now that you understand the basics of long division, you may be asked to write your remainder as a fraction. Instead of writing r and then the number, you are going to take your remainder and make it the numerator of a fraction. However, you do still write the fraction as part of the quotient answer to your division problem. Also, you would check this division problem the same way as a normal division problem; multiply the quotient 23 by the divisor 6 and then add the remainder 1. Do not do anything with the fraction in order to check this problem. Long Division with Remainders as Decimals Another way you may be asked to express a remainder is in the form of a decimal. Instead of stopping here, however, you are going to keep going with division. You will add a decimal point. After the decimal in the dividend, you will add a zero 0 and continue division. You will keep adding zeroes until your subtraction step results in an answer of 0 as well. Notice that we added a decimal after the 6 in the dividend, as well as a decimal after the 5 in our quotient. Then, we started adding zeroes to the dividend. This time, it only took us one added zero before our remainder was zero. When you have your quotient with a decimal, you check the answer differently than if it had a remainder as a fraction or just a remainder written with r. Instead of adding the remainder separately, you just multiply the quotient including decimal by the divisor, like this: Sign up for free to access more Math resources like. Wyzant Resources features blogs, videos, lessons, and more about Math and over other subjects. Stop struggling and start learning today with thousands of free resources!

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### Chapter 8 : Lincoln Police | Community Policing

*Rather than merely responding to demands for police services, the department employees a Problem-Oriented Policing (POP) approach: identifying emergent problems, gathering data, bringing together stakeholders, and implementing specific strategies targeting the problem. The police response to an on-going or repetitive problem seldom involves.*

However, if we did make this guess we would be wrong. Consider any of the following function evaluations. It says that all the function values must be getting closer and closer to our guess. Recall from our definition of the limit that in order for a limit to exist the function must be settling down in towards a single value as we get closer to the point in question. This function clearly does not settle in towards a single number and so this limit does not exist! This last example points out the drawback of just picking values of the variable and using a table of function values to estimate the value of a limit. The values of the variable that we chose in the previous example were valid and in fact were probably values that many would have picked. In fact, they were exactly the same values we used in the problem before this one and they worked in that problem! This is something that we should always keep in mind when doing this to guess the value of limits. In fact, this is such a problem that after this section we will never use a table of values to guess the value of a limit again. This last example also has shown us that limits do not have to exist. Example 5 Estimate the value of the following limit. Below is the graph of this function. Note that the limit in this example is a little different from the previous example. In the first three examples we saw that limits do not care what the function is actually doing at the point in question. They only are concerned with what is happening around the point. Likewise, even if a function exists at a point there is no reason at this point to think that the limit will have the same value as the function at that point. Next, in the third and fourth examples we saw the main reason for not using a table of values to guess the value of a limit. In those examples we used exactly the same set of values, however they only worked in one of the examples. Using tables of values to guess the value of limits is simply not a good way to get the value of a limit. This is the only section in which we will do this. Tables of values should always be your last choice in finding values of limits. The last two examples showed us that not all limits will in fact exist. We should not get locked into the idea that limits will always exist. Finally, we saw in the fourth example that the only way to deal with the limit was to graph the function. Sometimes this is the only way, however this example also illustrated the drawback of using graphs. In order to use a graph to guess the value of the limit you need to be able to actually sketch the graph. For many functions this is not that easy to do. There is another drawback in using graphs. So, while graphs of functions can, on occasion, make your life easier in guessing values of limits they are again probably not the best way to get values of limits. There were a couple of reasons. First, they can help us get a better understanding of what limits are and what they can tell us. We will eventually talk about how we really do limits. However, there is one more topic that we need to discuss before doing that. Since this section has already gone on for a while we will talk about this in the next section.

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### Chapter 9 : Chapter 25 - ROI and Residual Income

*They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution." This is a rather high expectation for students in K- 6.*

Have a suggestion to improve this page? To leave a general comment about our Web site, please click [here](#)  
Share this page with your network. Shannon Introduction Many students have difficulties when attempting to solve word problems. I have tried to develop a series of lessons that will help teachers develop various strategies to teach problem solving in their classrooms. I teach in a school district with approximately 50, students. For the past 12 years, I have taught in under-resourced, urban areas. My students come with various academic deficiencies. Some of these deficiencies can be positively affected in the classroom, some cannot. Since NCLB has come into existence, when we speak about student outcomes there is not much that matters except for their standardized test scores at the end of each school year. If students meet standards according to our state test, schools are viewed as successful and the stress in "passing the test" is put off for another year. Sometimes, students can pass the test while simultaneously doing poorly on specific domains. One of the domains that my students have consistently performed poorly on is problem solving. For the past few years I have focused on mathematics, being a middle school math coach at one time, and most recently being the Early Intervention Program EIP math teacher for grades three, four, and five in my school. According to my state, EIP is designed to serve students who are at risk of not reaching or maintaining academic grade level. The purpose of EIP is to provide additional instructional resources to help students who are performing below grade level obtain the necessary academic skills to reach grade level performance in the shortest possible time. Each year, students come into my classroom who are supposed to possess skills that are prerequisites for the math activities that I teach. More often than not, there is a great disparity between what the students need to know to "get started" and what they actually know. Of course, I have to begin my instruction "where they are. I will have to teach my students how to add two-digit numbers and how to regroup. If they master these two skills, I will need to teach them how to add three-digit addends with regrouping as well. This will be an added issue as I work with my students on nuances involved in word problems. Ultimately, I would like for teachers to view this unit as one that assists them in helping students to master the complex skills of critical thinking and solving word problems in the primary grades. As the math portions of our standardized tests become more difficult for our students to master because of the plethora of word problems they contain, it is my hope that understanding the different dimensions of word problems will help teachers to become more thoughtful of their content as they present them to their students. Rationale Young children are naturally curious and have a desire to make sense of their world. They come to school with intuitive ways of thinking about and doing mathematics. They use these early skills that they have acquired to solve problems. It is evident from the lack of positive results on standardized test performance that the ways in which we have been teaching children about word problems - and possibly even mathematics as a whole - have been disconnected from their understanding of what math is and the relationships between and among numbers. Learning mathematics involves learning ways of thinking. It involves learning powerful mathematical ideas rather than a collection of disconnected procedures for carrying out calculations. One thing that children must do for themselves is maintain the positive attitude and belief that they can do math. Math must be nurtured with a supportive learning environment that promotes risk taking and creativity. It must also be one that focuses on problem solving. Word problems can serve as a context in which to learn mathematical concepts. Experiences with word problems can provide a meaningful bridge for connecting classroom mathematics with real-world mathematics. Word problems can be used as a basis for application and a basis of integrating the real world in mathematics education. They can provide practice with real life problem situations, motivate students to understand the importance of mathematics concepts, and help students to develop their creative, critical, and problem solving abilities. The rationale for creating this unit is to help my students become more proficient

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word problem solvers. I have seen students become intimidated and frustrated with word problems because they are not able to "break them down" and understand what is being asked. As I expose students to a variety of addition and subtraction word problems, I expect them to become fluent in solving word problems. I also expect them to become able to create their own word problems. I want to clarify to readers and implementers of this unit that there are some lessons that I am certain that I will have to conduct to prepare for the ones that will be mentioned in this curriculum unit. I may have to conduct some of these lessons over the course of the entire school year based on the achievement level of individual students. I have had several students enter my classroom lacking the necessary technical skills to complete operations such as addition and subtraction with regrouping. There are some students who will even need additional assistance and clarification with adding and subtracting numbers without regrouping. I will need to make sure that these students know about place value, and its role when we are adding two and three digit numbers without regrouping. At its most basic, addition is putting things together or joining. There are subtle differences with joining as described by Aharoni. Those differences include dynamic addition and static addition. In dynamic addition, the situation changes over time: In static addition, a large group is made of two subgroups, but there is no action of combination - the two parts simply coexist in the whole. An example of each is listed below: Dynamic Addition 3 butterflies were sitting on a limb. How many butterflies are there now? Static Addition A vase contains 3 red flowers and 2 yellow flowers. How many flowers are there altogether? As stated earlier, addition focuses on joining. Cognitively Guided Instruction Carpenter et al. Robin had 5 toy cars. Her parents gave her 2 more toys cars for her birthday. How many toy cars did she have then? Robin had 5 to cars. Her parents gave her some more toy cars for her birthday. Then she had 7 toy cars. Robin had some toy cars. Her parents gave her 2 more toy cars for her birthday. How many toy cars did Robin have before her birthday? According to Aharoni, subtraction means removal. Very similar to addition, there is a dynamic subtraction which means that the situation changes over time. An example of dynamic subtraction is listed below. Dynamic Subtraction There are 7 girls playing in the park. Four of the girls leave the park and go home. How many girls are left in the park? In this number sentence, the 7 is called the minuend. The 4 s called the subtrahend. The result of the action is called the difference. One is identified as "part-part-whole" or "whole-part. An example of each is listed below. Whole-Part Subtraction In a group of 5 children, 2 are girls. How many boys are there? Comparing Joseph has 7 cats and Travis has 4 dogs. How many more cats does Joseph have than Travis has dogs? Relationship between Addition and Subtraction Children need to understand that there is an inverse relationship between addition and subtraction. Before teaching this unit and very early in the year , I will ensure that students have mastered number facts and fact families. Students will learn that a number fact is made up of three numbers. Those three numbers can be used to make up other number facts. Knowing one fact can help children with other facts. Look at the number facts that we make with 2, 5, and 7. Children often find themselves either counting up or counting back to solve subtraction. If children learn the important inverse relationship between addition and subtraction, subtraction facts will become much easier. As I work with the children, I plan to use questions that encourage this strategy of the inverse relationship between addition and subtraction. Within addition and subtraction problems, there are four classes of problems that can be identified, and ultimately described and taught to children. The four basic classes of problems are join, separate, part-part-whole, and compare. The size of the numbers can vary, as well as the theme or context of the problems; however, the basic structure involving the actions and relationships remains the same. Helping my students to understand this "four class" framework will be essential in assisting them in becoming better word problem solvers. As we progress through addition and subtraction word problems, I will name these four classes, I will have students identify the four-classes, and I will work to help them understand the relationships between the classes. Joining - Class One Join problems involve action; they take place over time. In Join problems, elements are added to a given set. They involve a direct or implied action in which a set is increased by a given amount. The following are examples of join problems with the result unknown.