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Chapter 1 : Asphalt 9 Legends Mod APK + DATA | iHackedit

In order for people to NOT decide the only solution to the "Islam problem" is to wipe out all Muslims Muslims have to deal with the problems w/in their ranks.

Be diligent to present yourself approved to God as a workman who does not need to be ashamed, handling accurately the word of truth. You shall do so for six days. The next six chapters in Joshua are going to describe this conquest occurring in three phases or campaigns. Looking at a map, you would think they would enter the land in the south and then storm their way through the land. However, there was a strategic reason for beginning at Jericho and splitting the land in two. Here, nomadic tribes entered the land through several valleys leading from the city to the central ridge of the land. Furthermore, by entering the land at Jericho, Israel could divide the land in two, prohibiting any significant alliances between the northern city-states and the southern inhabitants Paul Enns, Joshua, Bible Study Commentary, pp. This strategy prevented the Canaanites from banding together, and taking Jericho was the key. If the battle of Jericho was meant to do anything, it was meant to remind Israel that God was in control. Emphasis 1 â€" The Specific Instructions â€" v. Verse one is a parenthetical verse that bridges the end of chapter 5 with the beginning of chapter 6. The purpose of this verse is to describe the seemingly hopeless situation facing Israel, who had no previous experience in attacking fortified cities. In fact, these high-walled fortified cities were one of the things that had discouraged the ten spies 40 years earlier. NAS The conquest of a walled city was a major challenge. There were at least five ways that a walled city could be captured: From a human standpoint the conquest of Jericho would be nearly impossible. According to Leon Wood, The walls were of a type which made direct assault practically impossible. An approaching enemy first encountered a stone abutment, eleven feet high, back and up from which sloped a thirty- five degree plastered scarp reaching to the main wall some thirty-five vertical feet above. The steep smooth slope prohibited battering the wall by any effective device or building fires to break it. An army trying to storm the wall found difficulty in climbing the slope, and ladders to scale it could find no satisfactory footing. Paul Enns adds, But in addition the defenses included a fortification of two walls that surrounded the city; the outer wall was six feet thick and the inner wall was twelve feet thick. The city was built on a mound, making the invasion more difficult BSC: Unger describes the wall structure further: A massive six-foot-thick wall was erected on the edge of the mound. The inner wall was separated from it by a space of from twelve to fifteen feet, and was itself twelve feet thick. The wall originally reached perhaps a height of thirty feetâ€¦. The crowded condition led to the erection of houses over the space between the inner and outer walls ibid, pp. Not only did the circumstances seem impossible for Israel, but they presented a problem for the people of Jericho as well. This fear is demonstrated by the shutting up of the city. That no one was let out indicates how desperate the situation was. It was not uncommon in a time of siege to send warriors out to harass the enemies or to engage them in battle. Sometimes a small party was sent out secretly in search of help or supplies. They may have been too frightened to attempt any of these strategies, and they may have wanted to prevent the city from being weakened by defectors or deserters Donald Madvig, Expositors Bible Commentary Vol. As Gene Getz puts it, They were taking no chances. If God can control and manipulate natural phenomena, how much more can He conquer man made structures. But how common for men and women who do not know God and who are blinded by their self-centered life-styles and pagan religions to believe that they can wall out God Joshua: Defeat to Victory, pp. Since it was His battle, victory was guaranteed. The Phrase I have given is in the past perfect which gives it the idea of that battle has already been won. Israel needed to take their eyes off of Jericho and its walls and put them on the Captain of the host of the Lord. The phrase with its king and the valiant warriors reminds us that citizens of Jericho were not patsies, but great warriors. Israel however, had the Great Warrior on their side! Now how was this great victory going to be accomplished? I can imagine what Joshua must have been thinking as the Lord revealed His plans to him. The priests and the army were to march around the city once a day for six days and on the seventh day they were to march around the city seven times then seven priests were to blow their seven rams horns, the people were to shout, the wall would fall and then they would charge Jericho. The ceremonial nature of these

instructions must be noted. This was to be first and foremost a religious exercise, a spiritual experience. All this is born out in the various elements of the processions: These four things are clues to what God is trying to do in giving these specific instructions. Howard, three different Hebrew terms are used in several combinations in this chapter, the qeren v. The word shofar is used 14 times in chapter 6; v. It was to be used for: Each Friday evening at sunset the shofar would sound to announce that the Sabbath had arrived. Their presence in the procession validates the fact that this battle was to have a religious or spiritual in nature. In this plan the emphasis is on the number seven: The number seven is written clearly into the life of Israel: The Sabbath celebrated on the seventh day of the week; seven weeks from Passover is Pentecost; the seventh year is a sabbatical year; and after forty-nine years seven times seven comes the Year of Jubilee. For details about this remarkable calendar, see Lev. Anything involving the number seven was especially sacred to them. While it is easy to get carried away with numerology and types in scripture, there is no doubt that the number seven was used here to emphasize that this was a sacred event. The last two verses of this section deal with specific instructions to the priests and to the people. Instructions to the Priests â€" v. Israel could march around Jericho and the priests could blow the shofars until they dropped from weariness, but if the Lord was not with them, there would be no victory. Consider too, that this nation is Thy people. Is it not by Thy going with us, so that we, I and Thy people, may be distinguished from all the other people who are upon the face of the earth? This once again reminds us of the chain of command that was established in chapter one. It is very unlikely that all of the people of Israel marched around the city of Jericho each day. It is more likely that it was the soldiers only and maybe not all of them. According to Numbers 26 there were over , men able to bear arms in Israel at this time, this would have been more than enough to defeat Jericho after the walls fell. Emphasis 2 â€" The Solemn Procession â€" v. For the LORD has given you the city. NAS This section serves as a summary description of the events of each day. The first day is summarized in v. The First Day Summarized â€" v. You can imagine what was going through the minds of Israel as well as the residents of Jericho. The Second through Sixth Days Summarized â€" v. The Seventh Day Summarized â€" v. In our next post we will look at the events of this seventh day more closely. Why go to all of this trouble? Was this just a trivial exercise or was there more to it than that? One purpose is for Israel and one purpose is for the people of Jericho. No doubt some of them were anxious to get on with the invasion so they could claim their inheritance and settle down to enjoy the rest God promised them Josh. To some of them, it may have seemed a futile waste of time to devote an entire week to the taking of one city. God is never in a hurry. It is not that Israel needed more faith to believe that God could do it i. Red Sea, Jordan River ; but that they needed faith to acknowledge that He was in control and that He knew what He was doing! They needed to be faithfully committed to His will and His way. The Lord could have just spoken a word and wiped out the Canaanites and given the land to Israel, but they needed to learn to trust Him His power and His will. Through their experience we can learn as well. We often face enemies and high walls in our lives that challenge us. The way to victory is to trust God and submit to His will and obey Him. However, knowledge and conviction are not enough. There must also be faith trust and repentance 2: By having Israel march around the city as He did, the Lord was reaching out to Jericho, one last time. Repent and turn from your sins. And it reached the grand crescendo on the seventh day as the people marched around the city seven times. There are numerous events in the Old Testament to indicate that if the people of Jericho had flung open the gates and begged for mercy, turning to God and asking for forgiveness, the Lord would have relented. God would have spared Sodom and Gomorrah. In fact, God promised Abraham He would spare both cities if there were only 10 righteous people living there.

Chapter 2 : Dilutions: Explanations and Examples - Quansys Biosciences

All about the sickening ideas of the Nazis to get rid of the Jews, gypsies and other so called "Subhumans" or "Untermenschen".

Koch, editor and author of the five introductory sections and two other sections. Reviewed by Charles E. Weber For the sake of understanding the general nature of this book, which is a sort of anthology by various specialists on a number of aspects of the history of Germany during the National Socialist period, we must first look at the structure of the book. It is divided into five parts, each with an introduction by the editor, H. Koch, a professor at the University of York. These introductions, which are perhaps the most valuable parts of the book, occupy about one-tenth of its pages. In addition to the introductions by Koch, there are sixteen individual studies of various aspects of the Third Reich: Nolte, "Between Myth and Revisionism? The Third Reich in the Perspective of the s" 22 pages H. Of the sixteen sections, numbers 1, 2, 5, 6, 14 and 15 are original contributions, no. I shall now attempt to give an idea of the varied contents of this book by selecting and commenting on individual passages and arguments, although the reader must bear in mind that these selections represent only a rather thin sampling from this rather large volume. Contrary to popular opinion, the phrase "entartete Kunst" degenerate art was originated not by the National Socialists, but rather by the early Zionist, Max Nordau pages On page 4 there is mentioned the role played by "almost a quarter of a million western and northern Europeans fighting in the ranks of the Waffen-SS against the Russians" by the end of A particularly interesting point is made on page 16 in a quotation from the chief of the French general staff, General Gamelin, who predicted in August a quick and easy victory over the German armed forces. The Poles were also remarkably overconfident at that time. Such attitudes in high places in France and Poland go a long way in explaining the origins of the Second World War. The latter book played a particularly important role in the anti-German propaganda activities at the beginning of the war and was reprinted innumerable times in various languages. The book falsely attributed to Thyssen is a favorite of Marxists. On page there is a statement which seems to imply that Hitler contemplated that the Kristallnacht riots against Jews on 9 November, would be a popular event. Since at least two sections of Aspects of the Third Reich have been made at least partially obsolete by subsequent publications. The somewhat revisionistic section on the genesis of Operation "Barbarossa" by H. Suvorov a pseudonym shows, on the basis of histories of Soviet military units and other sources, that a Soviet thrust toward the west was imminent before the beginning of Operation "Barbarossa" on 22 June Another section, which was first published in , the section by Broszat on the "Final Solution" pages , must be contrasted with the Leuchter Report, which disproves the assertion that mass, factory-like executions of Jews took place in Auschwitz in lethal gas chambers there. The author of the Leuchter Report, Fred A. Leuchter, is an American engineer who specializes in the construction and operation of execution gas chambers in American prisons. He concluded that these buildings could not have been used for mass exterminations by the commercial pest control product, Zyklon-B. Broszat attacks David Irving, the prolific British historian, for claiming that there is no evidence that Hitler ordered the mass extermination of Jews under his control. Koch does not, however, mention the brutal Communist tyranny of Bela Kun Cohen in Hungary in , which had wide-spread effects on European attitudes toward Jews during subsequent years. Still another book, published as recently as late , has a bearing on an aspect which is only peripherally dealt with in Aspects of the Third Reich, the genocidal threat against the German nation. Aspects of the Third Reich does, however, mention page 27 the genocidal plan involving mass sterilization put forth by Theodore N. Kaufman in Germany Must Perish in not This knowledge must have had an important influence on the German will to continue resistance, even in spite of the desperate situation during the final months of war. Actually, Heydrich died on June 4, Such simple factual errors must always arouse a tendency to distrust an author. He points out page that historical debate about the Third Reich in West Germany is "much more constricted than in the Anglo-Saxon world. He should have known better than that in , when his essay was written. Although the book under consideration is modestly titled Aspects of the Third Reich, it does indeed cover a broad range of aspects of the history of Germany during , especially those that have attracted the most public attention. There

are, however, some important aspects which are mentioned only peripherally. Of these we might mention the eugenic measures of National Socialist Germany, which, contrary to widely held impressions, were strongly influenced by eugenic laws and scientific research in foreign countries, especially the United States. Still another American influence on National Socialism was expressed by Hitler in Mein Kampf, his admiration of the accessibility of higher education to all classes in the United States. However, even just on the basis of the status of present research, Aspects of the Third Reich should be recommended only with admonishments such as those we have expressed above. An all-encompassing, objective book on the history of Germany in English for the period remains to be written in spite of the plethora of studies of particular aspects of the history of Germany during

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Chapter 3 : Dilution Calculator | Tocris Bioscience

An extraordinary collection of newsreel, propaganda, and home-movie footage drawn from the archives of 18 nations, including color close-ups of Adolf Hitler taken by his mistress, that present an unvarnished perspective of the war's pivotal events.

The Treaty of Chaumont of March reaffirmed decisions that had been made already and which would be ratified by the more important Congress of Vienna of â€" They included the establishment of a confederated Germany including both Austria and Prussia plus the Czech lands , the division of French protectorates and annexations into independent states, the restoration of the Bourbon kings of Spain, the enlargement of the Netherlands to include what in became modern Belgium, and the continuation of British subsidies to its allies. The Treaty of Chaumont united the powers to defeat Napoleon and became the cornerstone of the Concert of Europe, which formed the balance of power for the next two decades. The bystander might be angry if the winner of the war did not provide enough compensation. For example in , a German coalition defeated Austria, but France was angry that it did not get any compensation to balance off the German gains. Congress of Vienna The Congress of Vienna â€" dissolved the Napoleonic world and attempted to restore the monarchies Napoleon had overthrown, ushering in an era of reaction. Under the Concert of Europe or "Congress system" , the major European powersâ€"Britain, Russia, Prussia, Austria, and after Franceâ€"pledged to meet regularly to resolve differences. This plan was the first of its kind in European history and seemed to promise a way to collectively manage European affairs and promote peace. It was the forerunner of the League of Nations and the United Nations but it collapsed by Three major European congresses took place. The Congress of Aix-la-Chapelle ended the military occupation of France and adjusted downward the million francs the French were obligated to pay as reparations. The Russian tsar proposed the formation of an entirely new alliance, to include all of the signatories from the Vienna treaties, to guarantee the sovereignty, territorial integrity, and preservation of the ruling governments of all members of this new coalition. The tsar further proposed an international army, with the Russian army as its nucleus, to provide the wherewithal to intervene in any country that needed it. Lord Castlereagh saw this as a highly undesirable commitment to reactionary policies. He recoiled at the idea of Russian armies marching across Europe to put down popular uprisings. Furthermore, to admit all the smaller countries would create intrigue and confusion. Britain refused to participate, so the idea was abandoned. Until the s the territorial boundaries laid down at the Congress of Vienna were maintained, and even more important there was an acceptance of the theme of balance with no major aggression. They rejected the plan of Tsar Alexander I to suppress future revolutions. The Concert system fell apart as the common goals of the Great Powers were replaced by growing political and economic rivalries. Britain, with its unchallenged Royal Navy and increasing financial wealth and industrial strength, built its foreign policy on the principle that no state should be allowed to dominate the Continent. It wanted to support the Ottoman Empire as a bulwark against Russian expansionism. It opposed interventions designed to suppress democracy, and was especially worried that France and Spain planned to suppress the independence movement underway in Latin America. Canning cooperated with the United States to promulgate the Monroe Doctrine to persevere newly independent Latin American states. His goal was to prevent French dominance and allow British merchants access to the opening markets. Atlantic slave trade An important liberal advance was the abolition of the international slave trade. It began with legislation in Britain and the United States in , which was increasingly enforced over subsequent decades by the British Royal Navy under treaties Britain negotiated, or coerced, other nations into agreeing. About slaves a year were illegally brought into the United States, as well as some to Cuba and Brazil. Trade was handled by neutral American and Dutch traders. The colonies set up temporary governments or juntas which were effectively independent from Spain. The division exploded between Spaniards who were born in Spain called "peninsulares" versus those of Spanish descent born in New Spain called "criollos" in Spanish or "creoles" in English The two groups wrestled for power, with the criollos leading the call for independence and eventually winning that independence. Spain lost all of its American colonies, except Cuba and Puerto Rico, in a complex series of

revolts from to Repeated attempts to regain control failed, as Spain had no help from European powers. After the loss of its colonies, Spain played a minor role in international affairs. Spain kept Cuba, which repeatedly revolted in three wars of independence, culminating in the Cuban War of Independence. The United States demanded reforms from Spain, which Spain refused. Winning easily, the U. The Great powers supported the Greeks, but did not want the Ottoman Empire destroyed. Greece was initially to be an autonomous state under Ottoman suzerainty , but by , in the Treaty of Constantinople , it was recognized as a fully independent kingdom. The Ottomans, with major aid from Egypt, cruelly crushed the rebellion and harshly punished the Greeks. Humanitarian concerns in Europe were outraged, as typified by English poet Lord Byron. Austria feared the disintegration of the Ottoman Empire would destabilize its southern borders. The British were motivated by strong public support for the Greeks. Fearing unilateral Russian action in support of the Greeks, Britain and France bound Russia by treaty to a joint intervention which aimed to secure Greek autonomy whilst preserving Ottoman territorial integrity as a check on Russia. Victory saved the fledgling Greek Republic from collapse. But it required two more military interventions, by Russia in the form of the Russo-Turkish War of â€”9 and by a French expeditionary force to the Peloponnese to force the withdrawal of Ottoman forces from central and southern Greece and to finally secure Greek independence. As the primary means of trans-oceanic voyages for over a century, ocean liners handled the travel needs of businessmen, immigrants and tourists. The world became much smaller as long-distance travel and communications improved dramatically. Every decade there were more ships, more scheduled destinations, faster trips, and lower fares for passengers and cheaper rates for merchandise. This facilitated international trade and international organization. The sailing ship records were held by the clipper , a very fast sailing ship of the era. Clippers were narrow for their length, could carry limited bulk freight, small by later 19th century standards, and had a large total sail area. Their average speed was six knots and they carried passengers across the globe, primarily on the trade routes between Britain and its colonies in the east, in trans-Atlantic trade, and the New York-to-San Francisco route round Cape Horn during the California Gold Rush. It used coalâ€”and needed many coaling stations. After oil became the favoured fuel and did not require frequent refueling. Transportation[edit] Freight rates on ocean traffic held steady in the 18th century down to about , and then began a rapid downward plunge. The British dominated world exports and rates for British freight fell 70 percent, from to The same ship could make more voyages in a year, so it could charge less and carry more goods every year. Iron hulls replaced wood by mid-century; after , steel replaced iron. It took much longer for steam engines to replace sails. Wind was free, and could move the ship at knots[citation needed], unless it was becalmed. Coal was expensive and required coaling stations along the route. A common solution was for a merchant ship to rely mostly on its sails, and only use the steam engine as a backup. For an ocean voyage in the s, half of the cargo space was given over to coal. The problem was especially acute for warships, because their combat range using coal was strictly limited. Only the British Empire had a network of coaling stations that permitted a global scope for the Royal Navy. The boilers and pistons were built of steel, which could handle much higher pressures than iron. They were first used for high-priority cargo, such as mail and passengers. Instead of greatly reducing the need for travel, the telegraph made travel easier to plan and replaced the slow long-distance mail service. The United States was growing rapidly in size, population and economic strength, especially after its defeat of Mexico in Otherwise it avoided international entanglements as the slavery issue became more and more divisive. The Crimean War was the most important war, especially because it disrupted the stability of the system. Britain strengthened its colonial system especially in India, while France rebuilt its empire in Asia and North Africa. Russia continued its expansion south toward Persia and east into Siberia. The Ottoman Empire steadily weakened, losing control in parts of the Balkans to the new states of Greece and Serbia. Germany called it a "scrap of paper" and violated it in by invasion, whereupon Britain declared war on Germany. Anti-Corn Law League The repeal in of the tariff on food imports, called the Corn Laws , marked a major turning point that made free trade the national policy of Great Britain into the 20th century. Repeal demonstrated the power of "Manchester-school" industrial interests over protectionist agricultural interests. His goal was to keep Britain dominant by maintaining the balance of power in Europe. He cooperated with France when necessary, but did not make permanent alliances with anyone. He

tried to keep autocratic nations like Russia and Austria in check; he supported liberal regimes because they led to greater stability in the international system. However he also supported the autocratic Ottoman Empire because it blocked Russian expansion. There were high levels of unemployment and industrial unrest among the working classes. There was small-scale fighting but it took years before the Netherlands finally recognized defeat. In the Dutch accepted Belgian independence by signing the Treaty of London. The major powers guaranteed Belgian independence. It was not invited to the Vienna Conference. During this period the Empire steadily weakened militarily, and lost most of its holdings in Europe starting with Greece and later in North Africa. Its great enemy was Russia, while its chief supporter was Britain. Three British leaders played major roles. Lord Palmerston in the era considered the Ottoman Empire an essential component in the balance of power, was the most favourable toward Constantinople. William Gladstone in the s sought to build a Concert of Europe that would support the survival of the empire. In the s and s Lord Salisbury contemplated an orderly dismemberment of it, in such a way as to reduce rivalry between the greater powers.

Chapter 4 : Preparing Chemical Solutions

The Final Solution - Part 1 - The World at War. The Final Solution - Part 1 - The World at War The Final Solution - Part 2 - The World at War - Duration: historyvideos 25, views.

Introduction to Dilution Problems In performing lab work, in science courses and in science-related jobs, it is sometimes necessary to prepare a solution of a specific, desired concentration by diluting another solution of higher concentration. These "dilution problems" are a source of repeated difficulty for many students. You must master how to solve these kinds of problems. A solution has two components: The solute is the substance that is dissolved in the solvent. Most often the solvent will be water, but there are many others possible, as you will see especially in chemistry courses various alcohols, ethers, e. And most often the solute will be some type of solid salts, carbohydrates, amino acids, e. For example, carbon dioxide CO2 gas and oxygen O2 gas are important solutes in your blood; and if you dissolved 5 mL of ethyl alcohol in mL of water, the alcohol a liquid would be the solute in that solution. Concentration of a solution refers to how much of one component solute usually there is relative to the amount of the other component solvent usually or relative to the total amount of material present solute plus solvent. Keep in mind, though, that one may view the solvent as well in terms of its fraction of the whole solution. The concept of concentration is a familiar one. For example, a cup containing one teaspoon of dissolved sugar has a lower sugar concentration that a cup containing two teaspoons of dissolved sugar. Though the volume of both solutions is one cup, the amount of solute sugar is different and the concentrations of the two are different. There are many ways of expressing concentration, e. Percentage is always based on a fractional part of Percentage concentration expressions take various forms, as follows. Yes, you can weigh a liquid. Water weighs 1 g per mL. This is the most common of the three. However, in mL of a solution, some part of the weight and volume of that mL total is due to the solute; the solute part of a solution does occupy space volume. If you withdraw 1 mL samples from the bottle, every sample will have the same sugar concentration, and in every 1 mL sample there will be 0. Perhaps it is obvious that by combining equal volumes of water and the stock solution, the sugar concentration is cut in half. But maybe that answer is not so obvious, even though the numbers are "round" and easy to work with. That is not obvious at a glance. Most people cannot work such problems at first. But such problems do occur in many different settings and must, therefore, be dealt with. The good news is that everyone here can learn how to solve problems involving concentrations and dilutions. It is important to realize that there is a logical way to solve dilution problems, to reason your way through them. Learning this is the sensible approach now. The 40 mL of water, itself, contains no sucrose. Therefore, the total mass of sucrose in the new solution must be 10 mL X 0. Multiplying that gives you 5 g of sucrose. Again, that is the total amount mass, weight of sucrose that the new diluted solution will contain. When you multiplied 10 mL by 0. Think of it this way too: The units must come out right in the end. By faithfully keeping track of the units throughout a problem, you are actually checking the work for mistakes as you go. The units have to make sense. At this point in working the problem, you have 5 g of sucrose. Obviously, that is not a concentration expression. The shortcut is to multiply what you start with, i. Then, 26 mL X 0. Note that mL canceled. The result of this step is "grams of sucrose". Now, this amount mass of sucrose is all of the sucrose that will be in the new solution. Remember that your algebra long ago taught you that you may multiply numerator and denominator by the same thing without changing the value of the ratio. It is important to be organized and methodical in working problems. It is not a good idea to skip steps in working problems, at least not now. The emphasis now is on understanding how to do these types of problems, how to reason through them. The 1 to 5 means that we split the mL into 5 parts, so that each "part" is 25 mL. That means 6 g sucrose per mL solution or 0. How do we do that? We reason as follows. We need to make mL total volume of that concentration. Therefore, we know that the new solution will contain mL X 0. So, how much how many mL? Note that "g sucrose" cancels. What is this telling us? So, now we need to add enough solvent to that 25 mL to get a final volume of mL of solution. We should have gotten the same answer, of course, and we did. Serial dilution problems are common in biology; one solution is diluted to make another, which in turn is diluted to give a third, and so on. The rules just explained above

about dilution problems apply in these cases too. The total dilution here is 1 to Solution A has 1. Solution B has 3. If you combine 34 mL of solution A with 19 mL of solution B, what is the protein concentration of the new solution? Round the answer to 2 decimal places. The concentration of a salt solution is 3. What is the salt concentration then? We assume, of course, that water evaporates but that the salt does not. Round the answer to the nearest whole number integer. In the previous problem 3 , what is the sugar concentration of the new solution? Round to the nearest integer. Round to 2 decimal places. The particles may be atoms, ions, or molecules, depending on the substance. Though different molecules may differ greatly in their molecular weights, a mole of each contains this same number of molecules; this is an important concept. The gram molecular weight or gram formula weight of a chemical substance is the molecular or formula weight expressed as grams. Their gram molecular weights are That means that Thus, a mole of a substance is equal to its molecular weight in grams. Molarity, which is symbolized by the letter "M," expresses the concentration of a solute in solution in terms of the number of moles of that solute per liter of solution. To prepare such a solution, one would add water to the glucose, with stirring, until all of the glucose was dissolved, and then add enough additional water to bring the final volume of the solution to exactly one liter. For example, you may picture a 1 M glucose solution filling a tiny test tube or filling a tea cup or a bath tub or a swimming pool. The total volume of the solution in these cases is very different, but the concentration is the same, 1 M. This is an important point to understand. Among other things, it shows us how to relate molarity to the weight-per-volume concentration expression discussed above. Staying with the glucose example, if you dissolve 18 g of glucose in enough water to make exactly mL of solution, then you have a 1 M solution same as g in 1 liter of solution. Therefore, if you know the molecular weight of the solute of interest, you can interconvert molarity expressions of concentration and weight-per-volume expressions of concentration. This problem turns into a dimensional analysis problem. Notice first that 0. Glycine is abbreviated GL here.

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Chapter 5 : International relations of the Great Powers (â€“) - Wikipedia

Solve each inequality. Then graph the solution y Define a variable, write an inequality, and solve }. number. Â¥ Â¥ Â¥) Â¥ Â¥ Â¥ Â¥, Â¥ Â¥.

Throughout history there have been three standards: Carbon, C12 , the most common isotope of carbon, has arbitrarily been given a value of exactly All other atoms are compared to C12 and assigned a value which reflects how much heavier, or lighter, they are relative to carbon atoms. For the elements these relative weights are called atomic weights. Molecular weights are calculated by adding atomic weights so they also are relative weights and represent how many times heavier a molecule is relative to C One of the most important consequences of having a system of relative atomic weights is that it can be proven mathematically that 1 gram-atomic weight GAW of element A contains just as many atoms as 1 GAW of element B. One GAW is defined as that mass of an element which is equal to the atomic weight expressed in grams. It was first measured by the American chemist Robert Millikan at 6. Therefore, 12 grams of carbon equals 1 GAW of carbon which contains 6. The charge on the electron, e, was first measured by Robert Millikan around Today the accepted value is 6. This translates into 6. A coulomb is an amp-sec. Therefore, the number of coulombs of charge passing through a circuit can be calculated by multiplying the amps passing through a circuit times the time in seconds. The electrode reactions in the electrolyser are: Assemble the solar cell, lamp, electrolyser and load measurement box as shown in the diagrm below. All connections must be correctly made, with the correct polarity. Check with you teacher before proceeding. Fill the gas storage cylinders of the electrolyzer with distilled water to the 0 mL mark. Adjust the lamp distance from the solar cell so that about mAmps are flowing through the circuit. Record the time needed in minutes to collect 10 mL of hydrogen gas. Also, record the volume of oxygen collected at the other electrode. During the expeiment take a reading of the number of amps passing through the circuit at 1 minute intervals. Complete a chart, similar to the following, for each minute the experiment was run. Record the current atmospheric pressure and temperature. Determine the charge, that is, the number of Columbs, passing through the circuit for each minute the experiment was run. From these values determine the total charge passing through the circuit. Convert this charge into electrons. Using the ideal gas equation detemine the number of mols of hydrogen collected. Using the ideal gas equation detemine the number of mols of oxygen collected. Identify the anode, that is, was it the electrode producing the hydrogen or oxygen? Identify the cathode, that is, was it the electrode producing the hydrogen or oxygen? Summarize your results in a nice neat table. For students having an XX chromosome. If any outliers are found, recompute the average without the outliers. For students having an XY chromosome.

Chapter 6 : Aspects of the Third Reich (Review)

Answer: Place Î¼L of the stock solution into Î¼L - Î¼L = Î¼L diluent Step Dilutions If the dilution factor is larger than the final volume needed, or the amount of stock is too small to be pipetted, one or more intermediary dilutions may be required.

Chapter 7 : The Approved Workman: LET THE CONQUEST BEGIN PT.1 - JOSHUA

2. mL of a M solution of nickel (II) sulfate is diluted to mL with water. 10 mL of this solution is taken and diluted to L. Calculate the concentration of [Ni 2+] in the final solution in ppm.

Chapter 8 : Simplify -5v^2+40v+10 Tiger Algebra Solver

The final solution pt. 1-pt. 2 (DVD) -- v. Making the series: a 30th anniversary retrospective ; Experiences of war (DVD). "@ en ; schema:description " An extraordinary collection of newsreel, propaganda, and home-movie footage drawn from the archives of 18 nations, including color close-ups of Adolf Hitler taken by his mistress.

DOWNLOAD PDF V. 10. THE FINAL SOLUTION PT.1-PT.2

Chapter 9 : Watch the Latest Movies and TV Shows for Free on streamlook

The Tocris dilution calculator is a useful tool which allows you to calculate how to dilute a stock solution of known concentration. Enter C 1, C 2 & V 2 to calculate V 1.