Study Guide and Practice Test

For

Pre-Employment Basic Skills Test

Employment Candidate:

One of the first steps in the employment process at US Sugar is the pre-employment assessment. US Sugar utilizes the Ramsay Combined Basic Skills assessment (CBS), which is a four (4) section, timed, learning aptitude assessment, which measures your ability to comprehend and learn new things. In our operations, new technology and processes are being implemented and tested every day, and it is imperative that potential candidates meet the CBS requirements.

The four sections of the assessment include reading comprehension, arithmetic, problem solving, and measurement. You will need to pass a minimum score on each of the four (4) sections to pass the assessment as a whole. The assessment is timed so that an element of stress is introduced in order to gauge your ability to work under pressure in an otherwise controlled environment. The assessment is multiple choice, and is computer-based in order to mimic the automation in our operations.

Contained in this booklet are practice questions for each of the test sections, as well as a tutorial on how to solve similar questions on each section. At the end of the booklet is a practice assessment that you will need to bring with you on the day of your scheduled assessment. The completed practice assessment is required before you begin the actual CBS assessment. Also contained in this booklet is a list of approved study guides that you may find in your local library, in the reference section, that may be available to you to study prior to taking the CBS assessment.

Should you not meet the minimum cut-off score on any of the four (4) sections of the CBS, you will be eligible to re-test after a period of three (3) months. Because of this re-test rule, it is imperative that you come fully prepared in order to pass the assessment.

The Reading Comprehension Section consists of two (2) passages (paragraphs) and sixteen (16) questions that must be answered in sixteen (16) minutes. The purpose of this section is to gauge the candidate's ability to infer information from the available text, or passages. US Sugar practices a flat hierarchal supervisory structure. This means that a typical supervisor's span of control may be a dozen (12) or more employees, working in several areas at once. During your employment, there will be occasions that you may be assigned to a job or task with limited information or direction, and you will have to use other available written information in order to complete the tasks or make decisions based on established processes or procedures without having to have everything explained to you, or when a supervisor is not available to coach you through the task.

The Reading Comprehension Section is written at a 10th Grade reading level. While you only need to answer nine (9) questions correctly, you should aim to answer all the questions in order to leave room for error. The key to answering all the questions is to read the first passage quickly, then begin answering the eight (8) questions associated with that passage, then read the second passage, and answer the eight (8) questions associated with that passage. It is not good practice to read both of the passages before you start answering the questions, and you should focus on one passage at a time, and the eight (8) questions associated with that passage, before reading the second passage.

Below is a sample passage that may look similar to the actual assessment:

"Reviving the practice of using elements of popular music in classical composition, an approach that had been in hibernation in the United States during the 1960's, composer Philip Glass (born 1937) embraced the appeal of popular music in his compositions. Glass based two symphonies on music by rock musicians David Bowie and Brian Eno, but the symphonies' sound is distinctively his. Popular elements do not appear out of place in Glass's classical music, which from its early days has shared certain harmonies and rhythms with rock music. Yet this use of popular elements has not made Glass a composer of popular music. His music is not a version of popular music packaged to attract classical listeners; it is high art for listeners steeped in rock rather than the classics."

Below is one example question that may be asked of the paragraph you just read:

1. The passage addresses which of the following issues related to Glass's use of popular elements in his classical compositions?

A. How it is regarded by listeners who prefer rock to the classics.

B. How it has affected the commercial success of Glass's music.

C. Whether it has contributed to a revival of interest among other composers in using popular elements in their compositions.

D. Whether it has had a detrimental effect on Glass's reputation as a composer of classical music.

E. Whether it has caused certain of Glass's works to be similar to other composers music.

To answer this question, read each of the possible answers closely to determine what the question is asking.

A. The passage does discuss that Glass' music is designed more for listeners of rock music rather than for listeners of classical music, but the passage does not give any information as to how rock listeners feel about Glass' music, so this answer can be ruled out.

B. Again, while the passage does discuss Glass' attraction to some listeners, there are no facts or figures that would tell the reader as to how Glass' music has done in stores, or how many tracks he has sold, so this answer can be ruled out.

C. This possible answer is asking the reader to determine if other classical composers have started using rock music in their own symphonies, yet the passage does not mention any other composer except Glass, so this answer can be ruled out.

D. This possible answer is asking the reader if using rock music rhythms in the classical music has had a negative impact on Glass's reputation as a classical composer. The passage states that Glass does not make popular music for a general audience, he makes music that is "high art for listeners steeped in rock rather than the classics," meaning, Glass is not concerned about his reputation as a classical music composer, he is trying to attract a different type of music lover who may not listen to classical music regularly.

E. This question is asking if Glass is creating music that is similar to other classical composers. One point in the passage states that "the symphonies' sound is distinctively his." This means that the music Glass is creating does not sound like any other music.

Since the passage does not discuss the impact of Glass' use of popular elements on listeners, on the commercial success of his music, on other composers or on Glass' reputation, so none of the Choices A through D are correct. The correct answer is Choice E.

Here are some tips to help solve these questions in a timely manner:

A. For possible answer A: "How it is regarded by listeners who prefer rock to the classics" the reader can quickly scan the passage for words similar to "listener" and re-read that sentence:

His music is not a version of popular music packaged to attract classical *__listeners__*; it is high art for *__listeners__* steeped in rock rather than the classics.

Ask yourself, does this sentence say anything about how listeners feel or think about the music? Or, is there any information given from the point of view of the listeners? The answer to both of these questions is "no," so answer A can be skipped.

B. For possible answer B: "How it has affected the commercial success of Glass' music" the reader can again quickly scan the passage for words similar to "commercial" or "success" or "sales" and re-read that sentence. However, those words do not appear in this passage, so answer B can be skipped.

C. For possible answer C: "Whether it has contributed to a revival of interest among other composers in using popular elements in their compositions" the reader can again quickly scan the passage for words similar to "revival" or "composer" or "interest" and re-read that sentence:

__Reviving__ the practice of using elements of popular music in classical composition, an approach that had been in hibernation in the United States during the 1960s, *__composer__* Philip Glass (born 1937) embraced the appeal of popular music in *__his compositions__*.

Ask yourself, does this sentence say anything about other composers? Or, is there any information given about a bigger revival of this music type other than from Glass? The answer to both of these questions is "no," so answer C can be skipped.

D. For possible answer D: "Whether it has had a detrimental effect on Glass' reputation as a composer of classical music" the reader can again quickly scan the passage for words similar to "reputation" or "effect" and re-read that sentence. However, those words do not appear in this passage, so answer D can be skipped.

E. For possible answer E: "Whether it has caused certain of Glass' works to be similar to other composers music" the reader can again quickly scan the passage for words similar to "same" or "reputation" or "effect" and re-read that sentence.

Glass based two symphonies on music by rock musicians David Bowie and Brian Eno, but the symphonies' sound is *__distinctively__* his.

The word "distinct" or "distinctively" means the opposite of "similar," it means that something is unique or one of a kind. In the sentence, the word is used to mean that Glass' music is different than everyone else's, and not the same as others. Because we have ruled out the other answers, and because this answer is the closest to being the right answer, we should choose answer E.

The Arithmetic Section consists of fourteen (14) questions that must be answered in ten (10) minutes. The purpose of this section is to gauge the candidates ability to gather information from numbers. Out of the total number of questions, less than half are actual "math" questions, which means, that even if you get all the "true math" questions wrong, and all the other questions correct, you may still pass this section. Nearly every career at US Sugar requires the employee to use or interpret numbers. Whether you are pumping gas, entering laboratory or production information, or taking a measurement, inaccurate guessing of numeric information may prevent product loss, or product contamination, or false information being sent to the quality control teams. Any of these potential errors affects the organization's ability to remain competitive and profitable.

The Arithmetic Section is written at a 10th grade math level. While you only need to answer eight (8) questions correctly, you should aim to answer all the questions in order to leave room for error. The key to answering all the questions is to first answer the questions that are easy to you, and skip the hard questions. Then, once you have answered the easy questions, go back to the hard questions you skipped and work on those. For instance, it is not good practice to spend a lot of time on a question that you do not know how to solve. If time is running out, and you have unanswered questions, make an educated guess in order to prevent unanswered questions, which will be marked wrong. You will not be able to use a calculator on this test.

The following are sample questions that may be asked on the actual assessment, with a guide as to how to answer them:

1. What is 9% of 96?

    A. 8
    B. 8.64
    C. 9
    D. 9.6

This question is asking you to figure out what 9% of the number 96 is. You use percentages every day and you might not realize it. In retail stores, you may purchase a shirt that is marked off 20% from a sale price of $24.99. At US Sugar, you may be asked how many gallons of fuel can be added to a 10,000 gallon tank that is reading 89% full. How do you figure out how much the shirt is after the discount, or how much fuel can be added to the tank without over or under filling?

Many people can guess a percentage within some accuracy, but for this assessment, you will need the right number, not a close guess. Can you guess how much money you would save if there was a 10% off sale on a gallon of milk that cost $3.50? If you guessed 35 cents, you would be right! Figuring out 10% of whole numbers is easy, you just move the decimal place to the left one spot. What about 10% off a hotel stay that cost $159.00? By moving the decimal to the left one spot, 10% off that hotel room would save you $15.90!

We can write percentages in three different ways, and solve the problem. You must determine which problem solving technique is easier for you, and then remember it for the assessment.

The word "per cent" is Latin for "of one hundred." Questions that ask you what is the percent of another number, are really asking you how much that number is in relation to the number 100.

We can write 9% as 0.09, or as 9/100. Basically, if we were talking about money, 9% of one dollar is 9 cents.

0.09 is nine one-hundredths (or 9/100), because of the decimal place. The first number to the right of the decimal place is a tenth, and the second number to the right of the decimal place is a hundredth. If the question was "What is 19% of 96," the number 19% would be written as 0.19, or 19/100.

We can easily solve these problems by multiplying the whole numbers together. In our question, "What is 9% of 96," you may have to figure out how much fuel a 96 gallon oil can hold, when the meter is reading 9%. How much oil is in the tank already? How much oil can we add to make it full without spilling over and wasting resources?

First, we have to make 9% a whole number just like the number 96, by re-writing 9% as 0.09. Then, we can multiply 96 by 0.09, making sure to line up our decimals in the equation:

$$\begin{array}{r} 96.00 \\ \times\, 0.09 \\ \hline 864.00 \end{array}$$

Then, multiply outside in, 9 x 96 = 864

Next, move the decimal in the answer order to find the correct number

Since 0.09 has two numbers to the right of the decimal, we move the decimal two numbers in from the end of 864, which makes the answer 8.64. Now we know that 9% of a 96 gallon oil tank has 8.64 gallons in it. How many gallons can we add to the tank to make it full?

$$\begin{array}{r} 96.00 \\ -\, 8.64 \\ \hline 87.36 \end{array}$$

To find that out, we take the total tank capacity, 96 gallons, and subtract what is already in there, 8.64 gallons, and we see that we can pump in 87.36 gallons without overfilling the tank! Try this on your own car next time you fill up the gas tank. If your car has a 14 gallon gas tank, and you filled up with 12.34 gallons of gas, what percentage of your tank already had gas in it before you filled up?

$$\begin{array}{r} 14.00 \\ -\, 12.34 \\ \hline 1.66 \end{array}$$

The easiest way to solve this problem is to find the percentage of gas pumped in, and subtract that from the total, or 100%, which would give you the percentage originally in the tank.

Next, divide the number of gallons pumped in by the total amount of gallons held in the tank. This will give you a decimal, which can be re-written as a percentage.

$12.34 \div 14$

To solve 12.34 ÷ 14, write the problem down as shown.

Next, determine how many times the number 14 can go into the first whole number evenly. As you can see to the left, the number 14 cannot go into the numbers 1, or 12, but can go into the number 123 because 8 x 14 is 112. The remaining number 11 is called the "remainder" and becomes the whole number that 14 has to go into.

Ensuring the decimal space at the top of the equation remains in the same place as below, continue to determine how many times the number 14 can go into the remainder evenly. Here, the remainder is 11, and 14 cannot go into 11, so we drop down the next number from the top, to create the number 114, to which 14 can go into 114 8 times, creating the remainder 2.

Since 14 cannot go into the number 2, we have to add a zero and drop the zero down to create the number 20, which 14 can go into 1 time, and it creates the remainder 6.

Once we have solved to two decimal places, we can stop, and we now know that the 12.34 gallons of gas we put into our car's tank was 88.14% of the entire tank.

Here, we can see that the 12.34 gallons of gas we put in to our tank, plus the 1.66 gallons already in the tank, equal 14 gallons of gas, the total amount of gas our tank can hold.

$$\begin{array}{r} 100.00 \\ -\ 88.14 \\ \hline 11.86 \end{array}$$

Since 12.34 gallons is 88.14% of the tank, we can subtract 88.14 from 100, which is 11.86. That means, 1.66 gallons is 11.86% of the total tank capacity.

Fortunately, only two (2) of the fourteen (14) arithmetic questions on the entrance exam will involve multiplication or division of percentages, and you need to answer eight (8) of the arithmetic questions correctly. If the percentage problems are too difficult for you, skip them, and save them to answer last before your time runs out.

The next type of question in the Arithmetic section will be to determine length or distance. Below is a common type of problem:

1. Using the figure on the right, what is the distance of the vertical question mark?

    A. 1m
    B. 1.5m
    C. 2m
    D. 2.5m

$$9m = 5.5 + ?$$
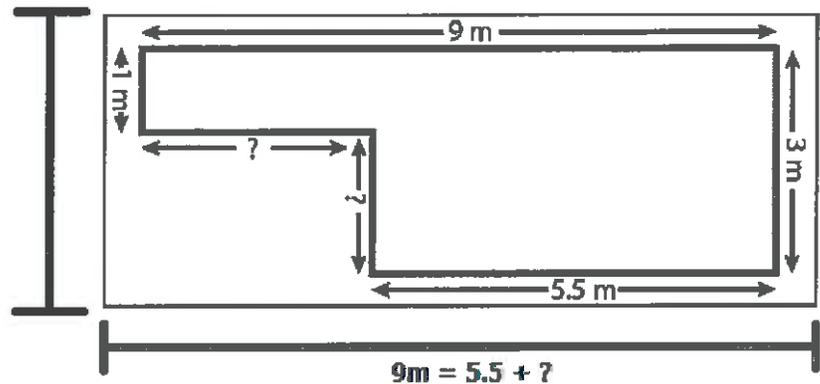
To solve this problem, we first must have to determine which of the question marks the question is referring to. There are two "?" symbols, one is on a horizontal line, and one is on a vertical line. The horizontal lines run left and right, and the vertical lines run up and down. So, for this question, we are looking at the line marked with a "?" running up and down.

Next, we have to identify what information is available to use to help us solve the problem. Let's walk through the process to solve the distance or length of the horizontal line first. We know by looking at the top of the figure that the total length of the figure is 9m, because the top horizontal line shows us that 9m is the complete distance across the figure. On the bottom of the diagram, we know that there are two horizontal lines, one marked with a "?" and one marked "5.5m." So, we know that 5.5m added to the "?" must equal 9m. The easiest way to figure out what the "?" equals is to subtract 5.5m from 9m, because that will give us the difference, which is the answer to the horizontal "?" and the equation looks like this: 9m - 5.5m = ?

Think of having nine (9) dollars. If you pay $5.50 for something, how much money do you have left? You would have $3.50 left over. So, the answer to the problem 9m - 5.5m is 3.5m. We can check our work by adding 5.5m and 3.5m together, and the side should equal 9m. 3.5m + 5.5m = 9m.

Now, can you answer the initial question as to how long the vertical "?" is? If you found the answer to be C, 2m, you are correct!

Next, we will discuss solving questions based on a series table. Many careers at US Sugar require you to know how to validate information based on a set of known information. By checking equipment or fluid readings against a chart, you will know when something is out of specification, which is very important to ensure our processes continue to run without interruption.

A series table question will look like this:

MODEL	LOAD CAPACITY				DIMENSIONS					
Model #	Minimum Load		Maximum Load		Width		Depth		Height	
	Lbs	Kgs	Lbs	Kgs	Inches	MM	Inches	MM	Inches	MM
TS-150	0	0	330	150	15.7	400	17.7	450	3.1	78.5
TS-140	0	0	308	140	19.7	500	23.6	600	3.3	84
TS-140+40	88	40	396	180	19.7	500	23.6	600	3.3	84
TS-300	0	0	660	300	23.6	600	31.5	800	4.7	120
TS-300 LT	0	0	264	120	23.6	600	31.5	800	4.7	120

1. Using the figure above, what is the maximum load capacity for a TS-300 in kilograms?

   A. 0
   B. 660
   C. 300
   D. 23.6

To solve this problem, we first look across the top of the series table to find the "Load Capacity" category, then under "Load Capacity" we see several options, such as Minimum Load, Maximum Load, and two other columns for each in "lbs" and "Kgs." We know the question is asking for Maximum Load, so we can ignore the column under "Minimum Load." Next, we have to figure out if kilograms mean "lbs" or "Kgs." If you did not know that "lbs" mean "pounds," and "Kgs" mean "kilograms," then you can look at the letters in the abbreviations for clues. Now we know that the proper column to be looking at is the column under "Load Capacity," and under "Maximum Load," and under "Kgs."

Next, we look at the left of the figure to determine which model we need to reference. The question tells us the model we are looking for is "TS-300," and we see that TS-300 is the fourth model down. Now, lets trace a line with our finger from the words "TS-300" straight over to the column under "Maximum Load Kgs" and we see the number 300. Our answer is C, 300.

Another type of question you may see on the pre-employment assessment is the chart table. Chart tables are useful in determining when equipment is operating efficiently, or when making a determination on how elements like weather, steam temperature, or oil pressure are effecting equipment. US Sugar spends a lot of money each year on fuel costs, and keeping fuel use efficient allows us to maximize our profits, which, in turn, helps our Company to remain competitive, and helps to ensure job security for everyone.

A chart table question will look like this:

1. Using the figure to the right, at what temperature would steam likely be, or most closely represents if the Gauge Pressure was reading 3.6?

   A. 100
   B. 125
   C. 150
   D. 175

Steam Chart Pressure vs Temperature
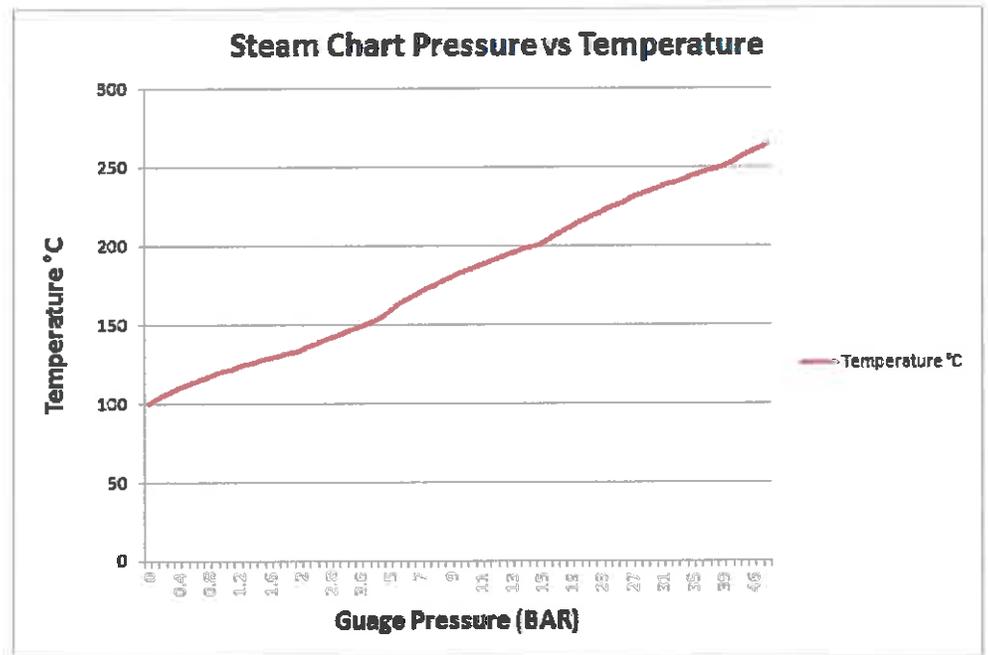
To solve this problem, we first look across the bottom of the figure to find the number 3.6 in the Gauge Pressure. Then, we simply draw an imaginary straight line up from the number or trace our finder up, and find where the red temperature line meets our imaginary straight line. Where our imaginary line meets the red line, we then trace an imaginary line to the left, and find out which possible temperature number closely matches our temperature at Gauge Pressure 3.6. The answer then is C, 150.

Can you determine on your own what the steam temperature would be if our gauge pressure was 15?

At US Sugar, we measure everything. We measure the weights of sugar cane in the fields, and when the cane is cut. We measure the weight of the cane as it enters our factory, and we measure the weight of the juice squeezed from the cane, and compare that weight to the shipment weight. We measure the pipes that carry the juice through the factory to a thousandth of an inch to determine wear on the pipes so that we can replace worn pipes before they break. We also inspect parts and equipment for defects before placing them into production. Knowing how to spot a defect or difference between two like objects, and knowing how to use a basic ruler, measuring tape, or other gauges, are essential skills you will need to have on Day 1 of your employment. We also know that you may not have used a measuring device in a while, so this section is a refresher before you are tested on your ability to read one of these devices.

There are ten (10) questions on measurement, and you need to answer six (6) questions correctly in eight (8) minutes order to pass this section. At least two of the questions will be visual acuity, or the ability to determine which objects are different from the others. A typical visual acuity question looks like this:

1. Which of the following objects below are different from the others?

A   **B**   **C**   **D**
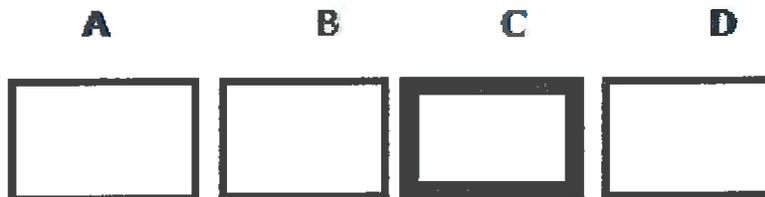
A. Object D
B. Object A
C. Object B
D. Object C

If you guessed that Object C is different, then you are correct. Object C has a thicker border than the other objects.

Now we will look at reading a ruler. On the next page is a standard ruler using inches. The ruler starts at the left, and reads zero (0). There are 16 lines between zero (0) and one (1). Each of the lines represents a sixteenth of an inch. Because the eighth line is halfway between zero (0) and one (1), that is the half inch mark, and can be written as 1/2. Because the number sixteen (16) can be divided into four (4) equal parts, or quarters (like a dollar bill), each fourth line represents a quarter of an inch, which can be written as 1/4. If you measured something that was a quarter of an inch long, you would write it down as 1/4", where the (") symbol means inches. If you measured something that was two and a half inches long, you would write it as 2 1/2".
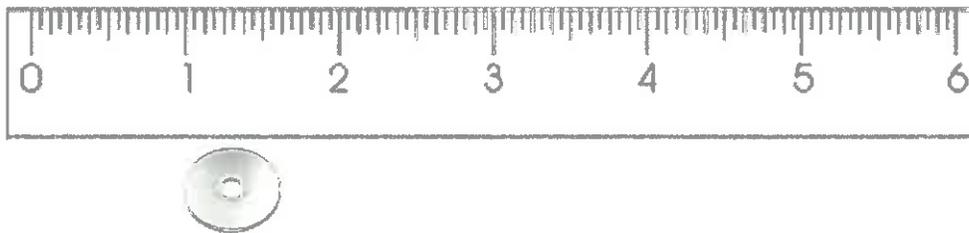
The Giant Inch
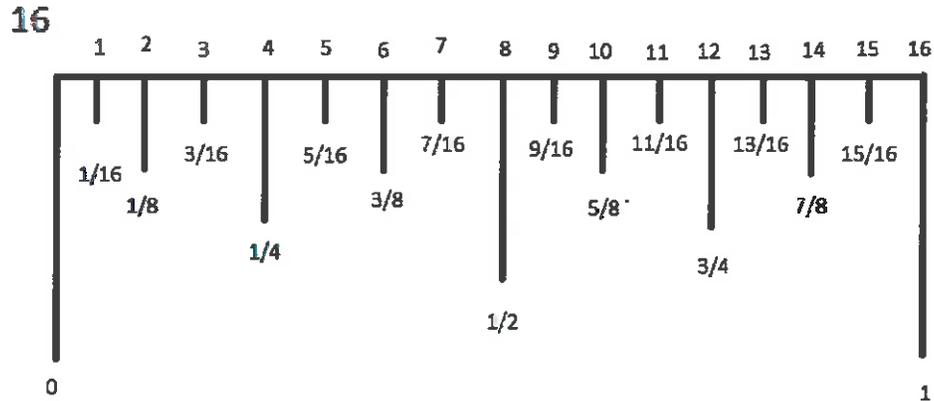
A typical measurement question looks like this:

1. Measure the following object:

Inch Ruler

A. 1/2"
B. 1"
C. 1 1/2"
D. 1 3/4"

To solve this problem, you must start the measurement from where the object is on the ruler. Do not be fooled by starting at zero (0)! On this example, the metal washer is starting at the 1 inch mark, and ends at the 1 1/2 inch mark. If you are hurrying through the test without paying attention, you might choose the answer as 1 1/2", but that is not correct. Since the washer is only 1/2 inches long, because it starts at 1" and ends at 1 1/2", the correct answer is A, 1/2". Not every object starts and stops at zero (0). However, by knowing that each line on the ruler is 1/16", you can always get to the right answer by counting the number of small lines in between the object shown.

The last two questions on the Measurement section will be reading dials and gauges, which is something that most people do every day without even thinking about it. For instance, if you looked at the gas gauge in your car, and the needle was pointing half way in the middle, you might say that you have half a tank left, or have used 50% of your gas. The gauges in this part of the pre-employment assessment are very similar.

A typical gauge reading question looks like this:

1. The gauge at right shows a reading of what?:

   A. 95
   B. 90
   C. 85
   D. 80
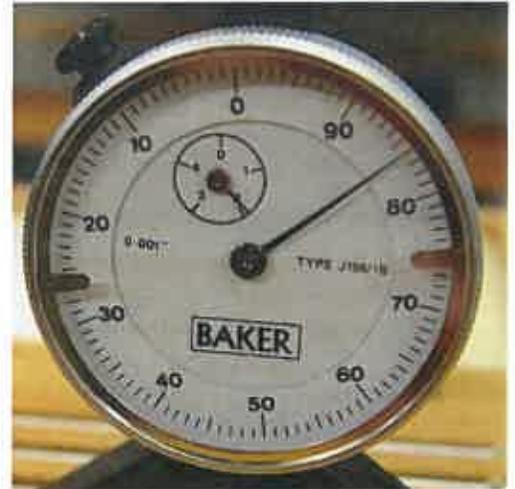
To solve this problem, first look at the possible answers. Most of the possible answers can be immediately ruled out. For instance, answers B and D read 90 and 80. In this picture, the needle is clearly pointing in between 80 and 90, so the answer cannot be either 80 or 90, and it must be either 95 or 85.

Since the needle is above 80, and below 90, the answer then cannot be 95. Therefore, through process of elimination, the answer clearly has to be 85, and the answer was found without even having to count the hash marks on the dial itself.

Dials like this are used all over US Sugar. They are used because it is very easy to look at one, even from a distance, and determine if the needle is pointing to high or low readings.

Here is another example of a more difficult gauge reading question:

2. The gauge at right shows a reading of what?:

   A. 35
   B. 45
   C. 50
   D. 55

To solve this problem, we again first look at and compare the possible answers to the gauge. Answer A, 35, is below 40, and the needle appears to be between 40 and 60, so 35 clearly cannot be the right answer. Since the needle is between 40 and 60, answers B, C and D, could be correct. However, the needle is perfectly between the numbers 40 and 60. What number do you think most perfectly balances between 40 and 60? Is 45 perfectly between 40 and 60, or is 45 closer to 40? For this question, the answer must be 50, because it is the only number perfectly falling between 40 and 60.

The Process Solving Section consists of twelve (12) questions that must be answered in fourteen (14) minutes. The purpose of this section is to gauge the candidates ability to adjust computers or equipment for an operation or a production process. Nearly every career at US Sugar requires the employee to use or manipulate a piece of equipment or tool, whether that tool is a standard tape measure, or a multi-million dollar boiler. Demonstrating the ability to determine when a malfunction occurs, or figuring out how to put square parts in square holes, are essential skills for success.

The key to answering all the questions is to work forward and not backward. For instance, a question might ask you to figure out why the television is not turning on after you push the "on" button on the remote control. Take the time to put yourself in that situation. What would you do if you were at home and your television did not turn on? Would you try the remote control again? Would you try to turn the television on manually? What about checking the batteries in the remote control? What about even checking the power cord to the television itself? For the purpose of this section, it is important to remember to work forward by starting at the root of the problem. In the case of our television example, the right way to solve this problem is to start at the power cord (working forward). If you started at the remote control, you would be working backward. Of course you can ultimately solve the problem by working backward, but, again, for the purpose of this test, it is easier to solve by working forward.

As always, if you become stuck on a question, skip it and come back to it after you have answered the easy questions. If you find yourself spending more than a minute on a question, move on to the next question and come back to the one(s) you skipped. If time is running out, and you have unanswered questions, make an educated guess in order to prevent unanswered questions, which will be marked wrong.

The following are sample questions that may be asked on the actual assessment, with a guide as to how to answer them:

1. In order for the tractor to start, the key must be turned to the "run" position, the break pedal must be depressed, the transmission lever must be in neutral, and the engine warning light must have turned off. Which of the following is a step in the process to start the tractor?

   A. The transmission must be in park.

   B. The parking break must be on.

   C. The cabin door must be closed.

   D. The engine warning light must be off.

In this example, there are three (3) answers that do not apply to the tractor starting sequence. The forth answer, D, is the only correct choice. If you answered D, you are correct!

Here is a problem solving question like the ones you may see on the test:

1. You plug the electric drill into the power outlet. You use the electric drill for about 5 minutes, and suddenly, the drill stops working. What potential problem can you rule out?

   A. The breaker on the power outlet has blown a fuse.

   B. There is an internal malfunction of the drill.

   C. The drill timer has expired.

   D. The drill has overheated.

In this example we can use process of elimination for the possible answers. We know that there is only one wrong answer, and that there are three right answers, and the question is asking you to find the one wrong answer. The question is looking for the "potential problem you can rule out," which means that there is one answer that is obviously wrong, and three answers that may be right. So, when reading the answers, if you can say to yourself "well, that answer could be the problem," then that answer is not the answer we are looking for, because we are looking for the answer that cannot be right.

On Answer A, ask yourself, "could a power breaker at the outlet stop electricity from getting to the drill?" Is it possible that a bad breaker at the outlet could stop electricity flowing to the drill? Sure, that is possible, and because it is possible, that is not the wrong answer we are looking for.
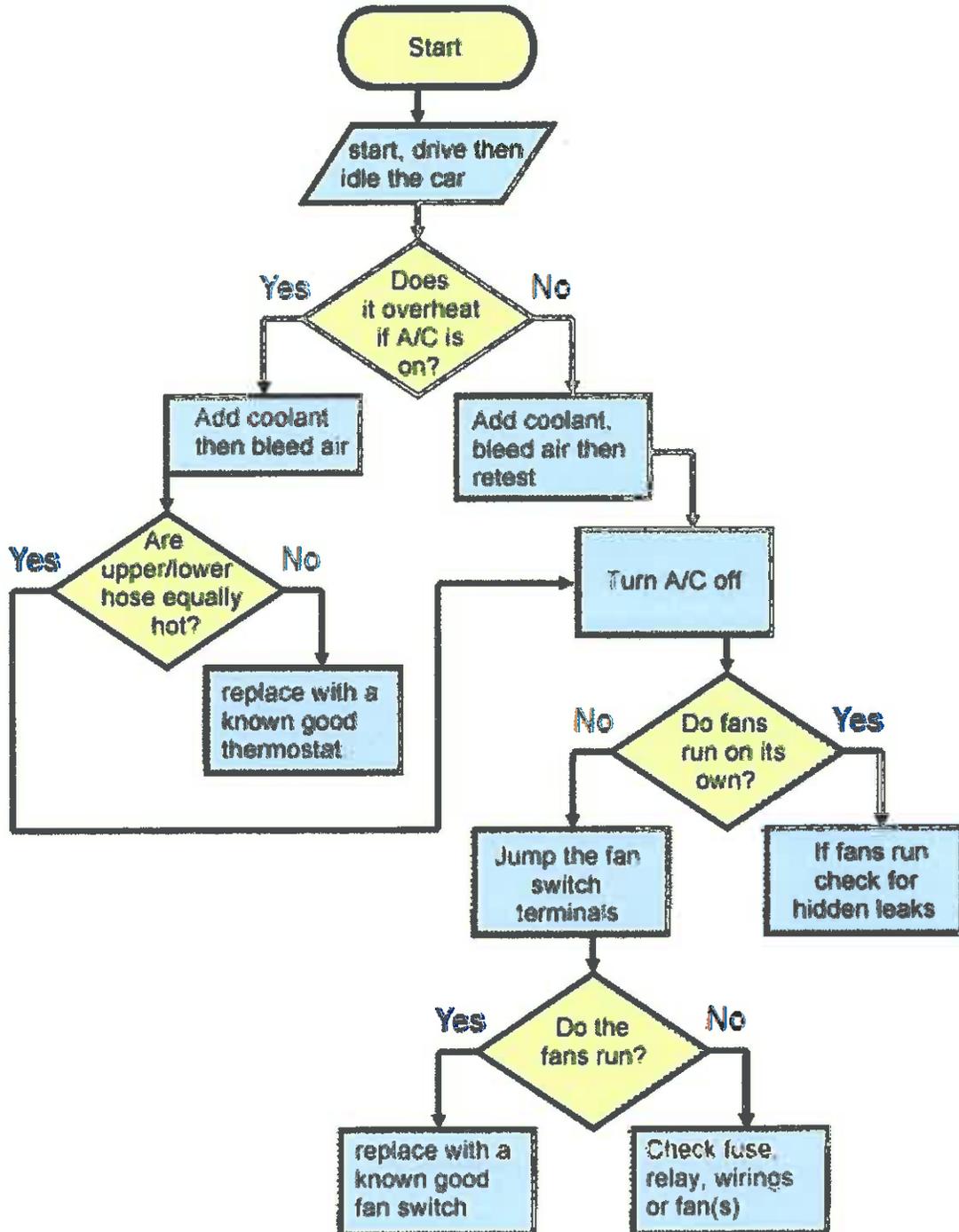
On Answer B, ask yourself "could the drill stop because of an internal malfunction?" As with human beings, there are occasional internal mechanical malfunctions that may cause a breakdown. We may not be able to see them, or detect them, but if a machine is not working right, or working at all, it is possible that there is an internal malfunction that may cause a breakdown. This answer seems to be a right answer, and we are looking for the one wrong answer.

On Answer C, ask yourself "do drills have a timer?" You may not have ever picked up a drill, or even know what a drill is. However, we can make assumptions based on our own past experience. What kinds of tools do we plug in that have a timer? Certainly many cooking tools have timers, such as microwaves, toasters, and ovens; but, what about tools like a drill, such as mixers, electric knives, or electric can openers? On these kitchen tools, the equipment operates by pulling a trigger, or pushing a button, and they stop when the trigger is relaxed or the lever turned off. This answer does not seem right, which makes the answer seem more wrong than right. Lets look at Answer D to make sure.

On Answer D, ask yourself, "could a tool stop when it is overheated?" Could our automobile stop if it is overheated? Have you ever had your cell phone or computer turn off due to overheating? This answer could be correct, at least more right than wrong, which makes the right answer to this question, Answer C.

Below is a Flow Chart problem question like the ones you may see on the test. A flow chart helps you troubleshoot a problem, or gives you the proper process to turn something on or off. In this question, the flow chart given as an example is about how to troubleshoot an automobile's air conditioning malfunction. You do not need to know anything about automobiles, or even air conditioning, to find the right answer. The question and possible answers are on the next page:

```
                        ┌──────────┐
                        │  Start   │
                        └────┬─────┘
                             │
                      ┌──────────────┐
                      │ start, drive then │
                      │  idle the car │
                      └──────┬───────┘
                             │
              Yes      ◇ Does it overheat ◇      No
          ┌────────────   if A/C is on?   ────────────┐
          │                                           │
   ┌─────────────┐                          ┌──────────────┐
   │ Add coolant │                          │ Add coolant, │
   │ then bleed  │                          │ bleed air    │
   │     air     │                          │ then retest  │
   └──────┬──────┘                          └──────┬───────┘
          │                                        │
   Yes ◇ Are          No                   ┌──────────────┐
  ┌── upper/lower ──┐                       │ Turn A/C off │
  │   hose equally  │                       └──────┬───────┘
  │     hot?        │                              │
  │         ┌──────────────┐         No  ◇ Do fans run ◇  Yes
  │         │ replace with │       ┌──── on its own? ────┐
  │         │ a known good │       │                     │
  │         │  thermostat  │ ┌──────────┐       ┌──────────────┐
  │         └──────────────┘ │ Jump the │       │ If fans run  │
  │                          │ fan switch│      │ check for    │
  │                          │ terminals │      │ hidden leaks │
  └──────────────────────────└────┬─────┘       └──────────────┘
                                   │
                        Yes ◇ Do the fans run? ◇ No
                     ┌────────                ────────┐
              ┌──────────────┐              ┌──────────────┐
              │ replace with │              │ Check fuse   │
              │ a known good │              │ relay, wirings│
              │  fan switch  │              │ or fan(s)    │
              └──────────────┘              └──────────────┘
```

Here is a flow chart question like the ones you may see on the test:

1. Referring to the flow chart on the previous page, what would you do if you find that the upper and lower hoses are not equally hot?

    A. Add coolant then bleed air.

    B. Turn the A/C off.

    C. Jump the fan switch terminals.

    D. Replace with a known good thermostat.

In this example we should work forward, not backward. First, starting at the top of the flow chart, find where the upper and lower hoses are mentioned. In the second yellow diamond shape down from the top of the diagram, we see the words "Are upper/lower hose equally hot?" This is the only part of the flow chart that mentions hoses. In the flow chart example, we see two possible answers to this question; yes and no. Our test question above asks "what would you do if you find that the upper and lower hoses are not equally hot?" The key word in this question is "not." If the hoses were, in fact, equally hot, we would answer the flow chart question by saying "yes" and trace the flow line to the next step in the troubleshooting process to the next blue box that states "Turn A/C off." However, since out test question asks what would you do if the hoses were "not" equally hot, then we would have to answer "No" on the flow chart and follow the flow line to the blue box that states "replace with a known good thermostat." The correct answer to this question in D.

2. Referring to the flow chart on the previous page, what would you check after you turn the A/C off?

    A. Check fuse, relay, wirings or fans.

    B. Jump the fan switch terminals.

    C. Add coolant, bleed air then retest.

    D. Do fans run on its own?

For this question, again, work forward from the top and find the box that describes the step to turn the A/C off. What happens after this step? In the blue box that states "Turn A/C off," there are three arrows outside of the box, two (2) arrows are pointing towards the box, and one arrow is pointing away from the box. Arrows pointing towards the box are inputs, something or some action that leads to the step in the box. The arrows pointing away from the box are outputs, something, or some actions that are taken next. Our question refers to "what would you check after you turn the A/C off," or what is the next step, not the previous step. In this case, we follow the output arrow to the yellow diamond that states "Do fans run on its own?," which is Answer D, the correct answer.

The following information contains suggested external study materials for the Ramsay Basic Skills Test, by the Ramsay Corporation.

Preface:

In general, both the *ASVAB* and *GED* are more difficult tests than the Ramsay Corporation basic skills tests. The *GED* is somewhat more academic and contains material on poetry, literature, biology, etc. The *ASVAB* is somewhat more technical with materials on subjects such as automotive, electronics, etc.

References that review content from basic skills tests may be good study materials because they contain basic information that is similar to basic apprentice material.

Below are references that we have examined and found to have merit:

REFERENCES

Barron's Educational Series, Inc. (2005*). Barron's How to prepare for the Armed Services Vocational Aptitude Battery* (8th Rev. ed.). Hauppauge, NY: Author.

Howett, Jerry. (2003). *McGraw-Hill's GED Mathematics: The most comprehensive and reliable study program for the GED math test.* New York, NY: McGraw-Hill.

Martin, Jack and Serich, Mary. (2006). *Pre-apprentice "Basic Skills" training.* Grand Blanc, MI: Jack Martin & Associates.

Mulcrone, Patricia (Ed.). (2002). *McGraw-Hill's GED: The most complete and reliable study program for the GED tests.* New York, NY: McGraw-Hill.

Ostrow, Scott A. (2006). *Master the ASVAB* (3rd ed.) Lawrenceville, NJ: Peterson's (A division of Thomson Learning, Inc.).

Rosin, Mitch (Ed.) (2003). *McGraw-Hill's Pre-GED: The most comprehensive review of the skills necessary for GED study.* New York, NY: McGraw-Hill.

Van Slyke, Caren. (2005). *Kaplan GED 2005 – 2006 edition.* New York, NY: Kaplan.

Below are references that we have NOT examined; however, they are being recommended by others:

REFERENCES

Chesla, Elizabeth. (2001). *501 Reading comprehension questions* (2nd ed.) New York, NY: Learning Express.

Gilbert, Sara Dulane. (1998). *How to do your best on tests.* New York, NY: Morrow Junior Books.

Kaprov, Ronald, et. al. (2005). *Arco's ASVAB basics* (6th ed.). Lawrenceville, NJ: Arco Publishing.

Rockowitz, Murray, et. al. (2004). *Barron's How to prepare for the GED* (13th edition). Hauppauge, NY: Barron's Educational Series, Inc.

Williams, Edward and Prindle, Katie. (2006). *Barron's Arithmetic the easy way* (4th ed.). Hauppauge, NY: Barron's Educational Series, Inc.

In addition, the following references apply to Mechanical Aptitude or Spatial Relations Testing:

REFERENCES

Wiesen, Joel. (2003). *Barron's how to prepare for the mechanical aptitude and spatial relations test.* Hauppauge, NY: Barron's Educational Series, Inc.

Worldwide Interactive Network. (1998). *WIN Work keys instruction solution: Applied Technology.* Kingston, TN: Author.

The following information contains links to external internet sources that provide free study guides and tutorials on topics similar to those being tested. Any references contained in this study guide to any specific commercial product, process, or service, or the use of any trade, firm or corporation name is for the information and convenience of the public, and does not constitute endorsement, recommendation, or favoring by US Sugar.

Topic	Link
Reading Comprehension	https://www.youtube.com/watch?v=wKuMY85G3zQ
Reading Practice Test	https://www.testprepreview.com/modules/reading1.htm
Finding Percentages	https://www.khanacademy.org/math/arithmetic/arith-decimals
Calculating Percentages	https://www.helpingwithmath.com/by_subject/percentages/per_calculating.htm
Dividing Fractions	https://www.khanacademy.org/math/arithmetic/arith-review-multiply-divide
Division Practice Test	http://www.thegreatmartinicompany.com/Math-Quick-Quiz/division-quiz.html
Multiplication Practice Test	http://glencoe.mheducation.com/sites/0078616824/student_view0/self-check_math_quiz/quiz_i__multiplying_with_decimals.html
Reading a Ruler	https://www.youtube.com/watch?v=KoD7CG6M9u4
Ruler Game Practice Test	https://www.rulergame.net/
Reading Flow Charts	https://www.youtube.com/watch?v=ba5duMARdMc
Test Taking Strategies	https://www.educationcorner.com/multiple-choice-tests.html
Practice Basic Skills Test	https://www.surveymonkey.com/r/SVR66TF

Practice Test

Instructions: Read the questions carefully, then circle the best answer for each question. You will need to bring this practice test with you on the day of your scheduled test.

Practice Reading Comprehension Passage

The Alaska pipeline starts at the frozen edge of the Arctic Ocean.

It stretches southward across the largest and northernmost state in

the United States, ending at a remote ice-free seaport village nearly

800 miles from where it begins. It is massive in size and extremely

(5)   complicated to operate.

The steel pipe crosses windswept plains and endless miles of

delicate tundra that tops the frozen ground. It weaves through

crooked canyons, climbs sheer mountains, plunges over rocky

crags, makes its way through thick forests, and passes over or

(10)   under hundreds of rivers and streams. The pipe is 4 feet in diameter,

and up to 2 million barrels (or 84 million gallons) of crude oil can

be pumped through it daily.

Resting on H-shaped steel racks called "bents," long sections of

the pipeline follow a zigzag course high above the frozen earth.

(15)   Other long sections drop out of sight beneath spongy or rocky

ground and return to the surface later on. The pattern of the

pipeline's up-and-down route is determined by the often harsh

demands of the arctic and subarctic climate, the tortuous lay of the

land, and the varied compositions of soil, rock, or permafrost

(20)   (permanently frozen ground). A little more than half of the pipeline

is elevated above the ground. The remainder is buried anywhere

from 3 to 12 feet, depending largely upon the type of terrain and

the properties of the soil.

One of the largest in the world, the pipeline cost approximately

(25) $8 billion and is by far the biggest and most expensive construction

project ever undertaken by private industry. In fact, no single business could raise that much money, so eight (8) major oil companies formed a consortium in order to share the costs. Each company controlled oil rights to particular shares of land in the oil fields and

(30)   paid into the pipeline-construction fund according to the size of its holdings. Today, despite enormous problems of climate, supply shortages, equipment breakdowns, labor disagreements, treacherous terrain, a certain amount of mismanagement, and even theft, the Alaska pipeline has been completed and is operating.

Practice Questions

1. The passage primarily discusses the pipeline's

   A. operating costs
   B. employees
   C. consumers
   D. construction

2. The word "it" in line 4 refers to

   A. pipeline
   B. ocean
   C. state
   D. village

3. According to the passage, 84 million gallons of oil can travel through the pipeline each

   A. day
   B. week
   C. month
   D. year

4. The phrase "Resting on" in line 13 is closest in meaning to

   A. Consisting of
   B. Supported by
   C. Passing under
   D. Protected with

5. The author mentions all of the following as important in determining the pipeline's route EXCEPT the

   A. climate
   B. lay of the land itself
   C. local vegetation
   D. kind of soil and rock

6. The word "undertaken" in line 26 is closest in meaning to

   A. removed

   B. selected

   C. transported

   D. attempted

7. How many companies shared the costs of constructing the pipeline?

   A. 3

   B. 4

   C. 8

   D. 12

8. The word "particular" in line 29 is closest in meaning to

   A. peculiar

   B. specific

   C. exceptional

   D. equal

9. Which of the following determined what percentage of the construction costs each member of the consortium would pay?

   A. How much oil field land each company owned

   B. How long each company had owned land in the oil fields

   C. How many people worked for each company

   D. How many oil wells were located on the company's land

10. Where in the passage does the author provide a term for an earth covering that always remains frozen?

   A. Line 3

   B. Line 13

   C. Line 20

   D. Line 32

Arithmetic Section Practice Exercises

1.   **Add**

2.1 + .7 + 14.8

A. 17.8
B. 17.6
C. 16.8
D. 16.9
E. 17

2.   **Subtract**

29.9
- 11.1

A. 31.1
B. 30
C. 19.9
D. 18.8
E. 28

3.   **Multiply**

27
x .9

A. 24.3
B. 243
C. 26.6
D. 25.7
E. 257

4.   **Divide**

1.91 ÷ 5

A. 9.55
B. 3.82
C. 0.382
D. 38.2
E. 6.91

5.

126 ÷ 1.5

A. 80.03
B. 80.3
C. 83
D. 80.4
E. 84

Use the table below to answer Questions 6 and 7.

		SERIES				
		I	II	III	IV	V	VI
N U M B E R	3363	1.07	1.08	1.09	1.1	1.11	1.12
	3364	2.08	2.09	2.1	2.11	2.12	2.13
	3365	3.09	3.1	3.11	3.12	3.13	3.14
	3366	4.1	4.11	4.12	4.13	4.14	4.15
	3367	5.11	5.12	5.13	5.14	5.15	5.16
	3368	6.12	6.13	6.14	6.15	6.16	6.17
	3369	7.13	7.14	7.15	7.16	7.17	7.18
	3370	8.14	8.15	8.16	8.17	8.18	8.19
	3371	9.15	9.16	9.17	9.18	9.19	9.2
	3372	10.16	10.17	10.18	10.19	10.2	10.21
	3373	11.17	11.18	11.19	11.2	11.21	11.22

6.

What is the entry for Series IV, Number 3369?

A. 6.15

B. 7.16

C. 8.17

D. 7.17

E. 8.18

7.

What is the Series for an entry of 6.15, Number 3368?

A. Series I

B. Series II

C. Series III

D. Series IV

E. Series V

Use the table below to answer Questions 8 and 9.

PERCENTAGE

Full
80
60
40

1115   1315   1515
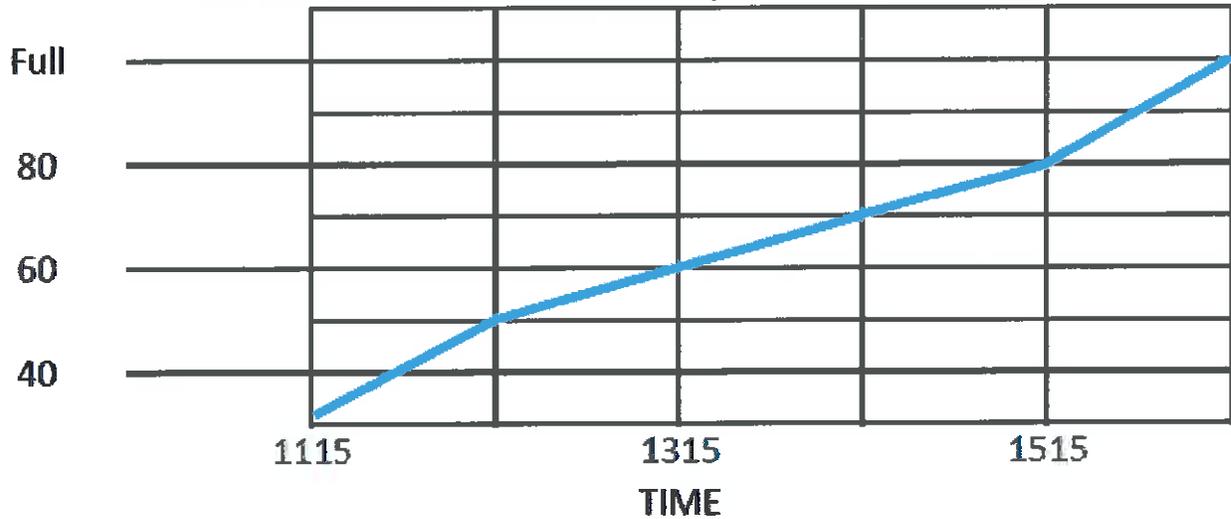
TIME

8.

A tank was being filled as shown above. What was the percentage filled at 1415 hours?

A. 70
B. 75
C. 80
D. 85
E. Not enough information

9.

At what time was the tank 50% full?

A. 1130
B. 1145
C. 1215
D. 1230
E. 1245

Calculate the following percentages or quantities.

10.

5% of 17 = ?

A. 1.7
B. 1.85
C. 0.017
D. 0.018
E. 0.85

11.

9 = what % of 15?

A. 6.0
B. 60.0
C. 0.09
D. 0.9
E. 0.85

Use the graph below to answer Questions 12 and 13.
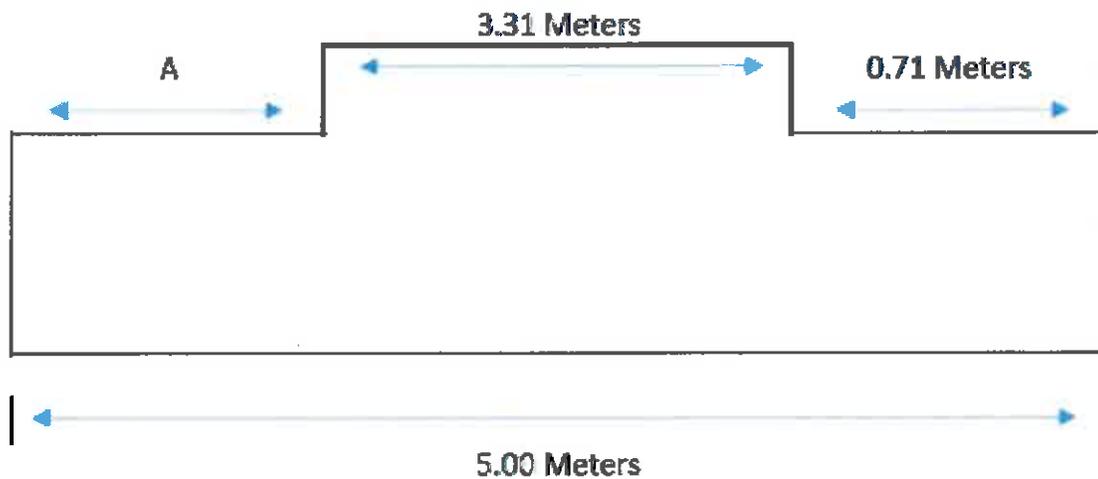
12.

What is the distance of A in the figure above?

A. 0.71
B. 4.2
C. 4.02
D. 0.98
E. 0.88

For questions 1 - 5, circle the correct measurement answer.

1.
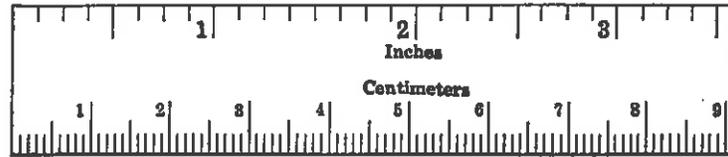
A. 1 inch

B. 2 inches

C. 7/8 inches

D. 1/8 inches

2.
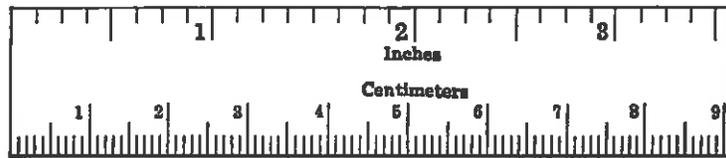
A. 1 inch

B. 1/2 inch

C. 3 inches

D. 2 1/2 inches

3.

A. 22

B. 24

C. 26

D. 28

3.

210 °C
180 °C
240 °C
150 °C
270 °C
120 °C
300 °C

A. 220 degrees
B. 225 Degrees
C. 230 Degrees
D. 235 Degrees

4.

PRESSURE GAUGE

A. 1 pound
B. 1.25 pounds
C. 1.5 pounds
D. 2 pounds

5.

Inches

Centimeters
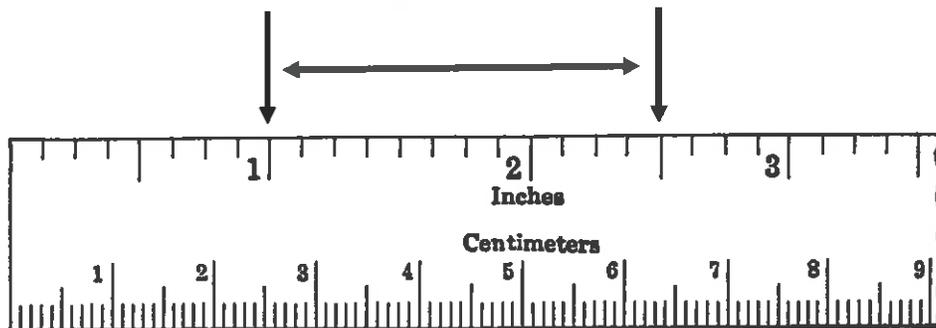
A. 1 inch
B. 2.5 inches
C. 1.5 inches
D. 3.5 inches

Flowchart Example
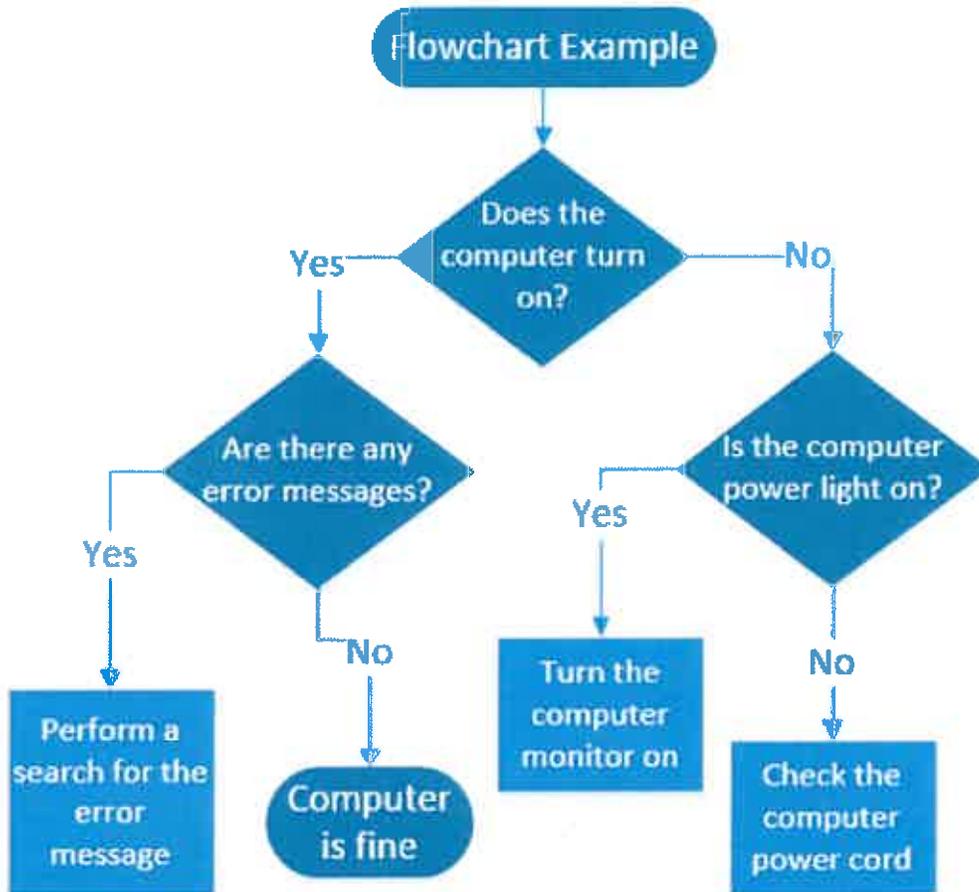
1. Referring to the flow chart above, if the computer does not turn on, but the power light is on and the power cord is plugged in, what could be the problem?

    A. There is an error message

    B. The computer is fine

    C. The power light is burned out

    D. The monitor is off

2. Referring to the flow chart above, if there is an error message, what should you do?

    A. The power light is burned out

    B. Check the power cord

    C. The computer is fine

    D. Conduct a search for the error message

For questions 3 - 5, use the following function:

In order for a machine to work properly, the following must be true:

- The main gauge must read above 10
- The secondary gauge must read below 100
- The safety gauge must read between 20 and 60
- The shut off valve must be open
- The gears must be in neutral

3. If the machine settings show that the safety gauge is 35, the shut off valve is open, the main gauge is 10, the gears are in neutral, and the secondary gauge is at 85, what could the problem be?

    A. The secondary gauge

    B. The gears

    C. The main gauge

    D. The safety gauge

4. If the machine settings show that secondary gauge is 110, the safety gauge is 60, the gears are in neutral, the main gauge is at 120, and the shut off valve is open, what could the problem be?

    A. The secondary gauge

    B. The main gauge

    C. The safety gauge

    D. The machine should work properly

5. If the machine settings show that the main gauge is at 65, the shut off valve is closed, the safety gauge is 20, the gears are in neutral, and the secondary gauge is at 10, what could the problem be?

    A. The machine should work properly

    B. The shut off valve

    C. The secondary gauge

    D. The main gauge

For questions 6 - 10, circle the best answer.

6. You notice a motor is making an unusual noise and there is smoke and excessive heat coming from the motor body, what could be the root cause?

   A. There is a lack of fuel to the motor

   B. There may be a lack of motor oil

   C. The motor may be old

   D. The motor is receiving too much oxygen

7. You plug a microwave into the wall socket, and the clock lights up blinking "12:00" but when you put your lunch in and select the "warm" button, the microwave starts but the plate turn table does not turn. What is the most likely problem?

   A. There is a lack of power to the unit

   B. The plate turn table mechanism is broke

   C. The door is not shut properly

   D. The wrong button was selected

8. When pushing a car, what should the transmission be set to?

   A. Drive

   B. Overdrive

   C. Neutral

   D. Reverse

9. Finished product is being moved from conveyor C to conveyor E, raw product is being moved from conveyor D to conveyor A, and conveyor B is down for maintenance, what happens if conveyor D malfunctions?

   A. Raw product will not be available

   B. Finished product will not be available

   C. All products will continue to be available

   D. Conveyor B will need to be fixed

10. You receive a damaged sugar bag with an individual lot code of 6785AB30, which of the following lot bales would it have come from?

   A. 6780AA10 to 6790AC01

   B. 6758BA30 to 6875BB35

   C. 6678AA to 6875AB10

   D. 6780AB10 to 6780AB30

You may use these answers to check your work:

Reading Comprehension:

1. D
2. A
3. A
4. B
5. C
6. D
7. C
8. B
9. A
10. C

Arithmetic:

1. B
2. D
3. A
4. C
5. E
6. B
7. D
8. A
9. C
10. E
11. B
12. D

Measurement:

1. C
2. B
3. B
4. A
5. C
6. C

Problem Solving:

1. D
2. D
3. C
4. A
5. B
6. B
7. B
8. C
9. A
10. A