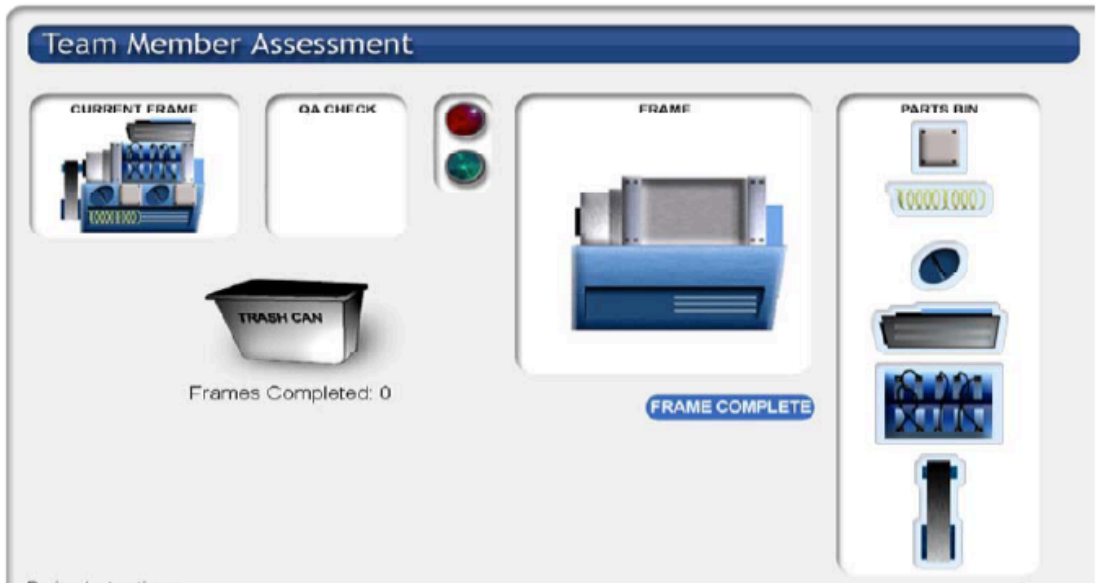
2. Initial Assembly Exercise



Operation Practice Test

Sample Question

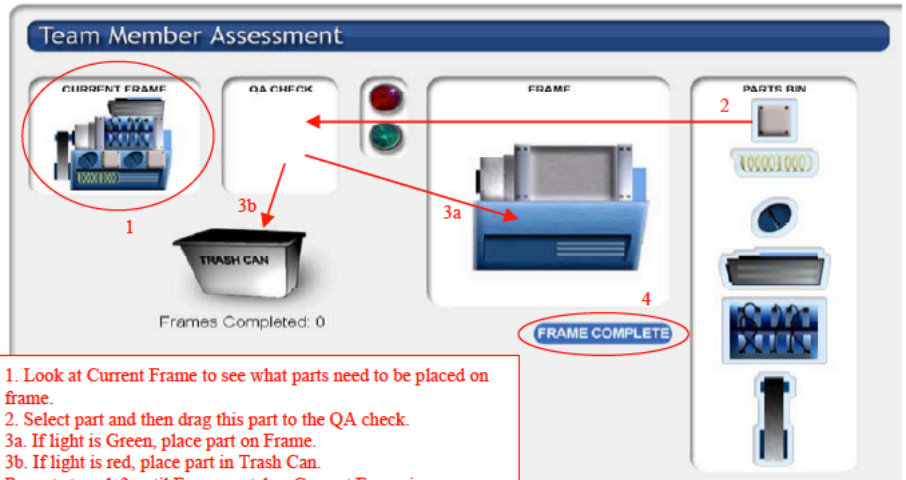
Source: Fortune 200 Company practice exam

Logical Sequential Thinking
Spatial Relationships
Procedures

None of these terms yield a hit in a search of Math or ELA Common Core

Where is this taught in our schools?

See below for an example of how to complete this exercise:



1. Look at Current Frame to see what parts need to be placed on frame.
2. Select part and then drag this part to the QA check.
3a. If light is Green, place part on Frame.
3b. If light is red, place part in Trash Can.
Repeat steps 1-3 until Frame matches Current Frame image.
4. Click Frame Complete

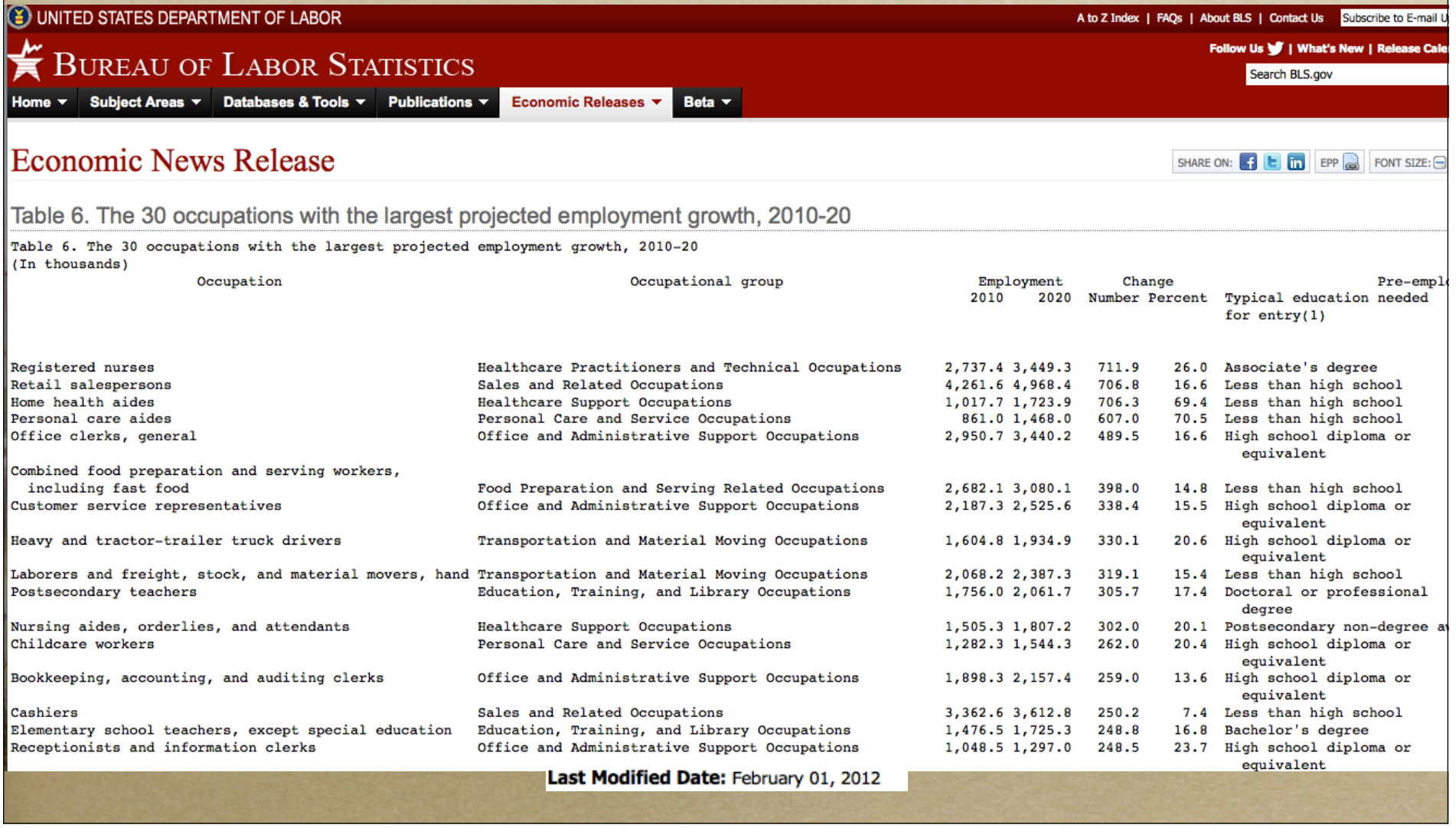
Yet one of our nations' largest employers thinks it is important enough to put in their

Pre-Employment Exam

I'm No Einstein, but it seems to me this may help to explain some of industries frustration with education

Another Way of Putting It

IT IS THE ECONOMY, STUPID!



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Economic News Release

SHARE ON: EPP FONT SIZE:

Table 6. The 30 occupations with the largest projected employment growth, 2010-20

Table 6. The 30 occupations with the largest projected employment growth, 2010-20
(In thousands)

Occupation	Occupational group	Employment 2010	Employment 2020	Change Number	Change Percent	Typical education needed for entry(1)	Pre-empl
Registered nurses	Healthcare Practitioners and Technical Occupations	2,737.4	3,449.3	711.9	26.0	Associate's degree	
Retail salespersons	Sales and Related Occupations	4,261.6	4,968.4	706.8	16.6	Less than high school	
Home health aides	Healthcare Support Occupations	1,017.7	1,723.9	706.3	69.4	Less than high school	
Personal care aides	Personal Care and Service Occupations	861.0	1,468.0	607.0	70.5	Less than high school	
Office clerks, general	Office and Administrative Support Occupations	2,950.7	3,440.2	489.5	16.6	High school diploma or equivalent	
Combined food preparation and serving workers, including fast food	Food Preparation and Serving Related Occupations	2,682.1	3,080.1	398.0	14.8	Less than high school	
Customer service representatives	Office and Administrative Support Occupations	2,187.3	2,525.6	338.4	15.5	High school diploma or equivalent	
Heavy and tractor-trailer truck drivers	Transportation and Material Moving Occupations	1,604.8	1,934.9	330.1	20.6	High school diploma or equivalent	
Laborers and freight, stock, and material movers, hand	Transportation and Material Moving Occupations	2,068.2	2,387.3	319.1	15.4	Less than high school	
Postsecondary teachers	Education, Training, and Library Occupations	1,756.0	2,061.7	305.7	17.4	Doctoral or professional degree	
Nursing aides, orderlies, and attendants	Healthcare Support Occupations	1,505.3	1,807.2	302.0	20.1	Postsecondary non-degree a	
Childcare workers	Personal Care and Service Occupations	1,282.3	1,544.3	262.0	20.4	High school diploma or equivalent	
Bookkeeping, accounting, and auditing clerks	Office and Administrative Support Occupations	1,898.3	2,157.4	259.0	13.6	High school diploma or equivalent	
Cashiers	Sales and Related Occupations	3,362.6	3,612.8	250.2	7.4	Less than high school	
Elementary school teachers, except special education	Education, Training, and Library Occupations	1,476.5	1,725.3	248.8	16.8	Bachelor's degree	
Receptionists and information clerks	Office and Administrative Support Occupations	1,048.5	1,297.0	248.5	23.7	High school diploma or equivalent	

Last Modified Date: February 01, 2012

UNITED STATES DEPARTMENT OF LABOR

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Economic News Release

Table 6. The 30 occupations with the largest projected employment growth, 2010-20

Janitors and cleaners, except maids and housekeeping cleaners	Building and Grounds Cleaning and Maintenance Occupations	2,310.4	2,556.8	246.4	10.7	Less than high school	None
Landscaping and groundskeeping workers	Building and Grounds Cleaning and Maintenance Occupations	1,151.5	1,392.3	240.8	20.9	Less than high school	None
Sales representatives, wholesale and manufacturing, except technical and scientific products	Sales and Related Occupations	1,430.0	1,653.4	223.4	15.6	High school diploma or equivalent	None
Construction laborers	Construction and Extraction Occupations	998.8	1,211.2	212.4	21.3	Less than high school	None
Medical secretaries	Office and Administrative Support Occupations	508.7	718.9	210.2	41.3	High school diploma or equivalent	None
First-line supervisors of office and administrative support workers	Office and Administrative Support Occupations	1,424.4	1,627.8	203.4	14.3	High school diploma or equivalent	1 to 5 y
Carpenters	Construction and Extraction Occupations	1,001.7	1,197.6	196.0	19.6	High school diploma or equivalent	None
Waiters and waitresses	Food Preparation and Serving Related Occupations	2,260.3	2,456.2	195.9	8.7	Less than high school	None
Security guards	Protective Service Occupations	1,035.7	1,230.7	195.0	18.8	High school diploma or equivalent	None
Teacher assistants	Education, Training, and Library Occupations	1,288.3	1,479.3	191.1	14.8	High school diploma or equivalent	None
Accountants and auditors	Business and Financial Operations Occupations	1,216.9	1,407.6	190.7	15.7	Bachelor's degree	None
Licensed practical and licensed vocational nurses	Healthcare Practitioners and Technical Occupations	752.3	920.8	168.5	22.4	Postsecondary non-degree award	None
Physicians and surgeons	Healthcare Practitioners and Technical Occupations	691.0	859.3	168.3	24.4	Doctoral or professional degree	None
Medical assistants	Healthcare Support Occupations	527.6	690.4	162.9	30.9	High school diploma or equival	None

1 Represents the typical education level needed to enter the occupation.
2 Indicates if work experience in a related occupation is commonly considered necessary by employers for entry, or is a commonly accepted substitute for formal types of training.
3 Indicates the typical on-the-job training needed to attain competency in the occupation.
NOTE: For more information about the education, work experience, and on-the-job training categories assigned to occupations, see www.bls.gov/emp/ep_education_training_system.htm

Last Modified Date: February 01, 2012

Meanwhile, Back on The Education Front…..

How are our Math Teacher's doing with creating challenging test items in Bloom's Taxonomy?

You know, the type of questions that employers want them to be asking?

New Domain

- **Cr** •Creating
- **Ev** •Evaluating
- **An** •Analyzing
- **Ap** •Applying
- **U** •Understanding
- **R** •Remembering

Apparently, they need some help.

Teacher-Developed Tests

Cognitive Level of Questions

	R	U	Ap	An	Ev	Cr
Elem	83%	0%	7%	10%	0%	0%
JHS	97%	0%	3%	3%	0%	0%
HS	88%	9%	0%	3%	0%	0%

SOURCE: Fleming and Chambers; 8,800 test items analyzed

New Domain

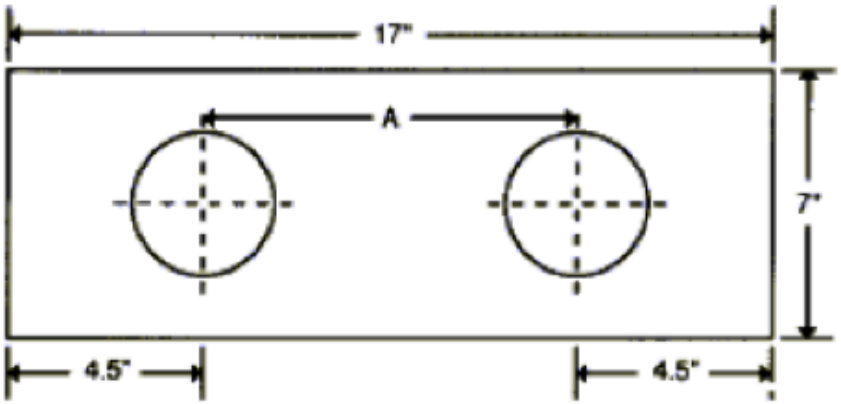
- **Cr** •Creating
- **Ev** •Evaluating
- **An** •Analyzing
- **Ap** •Applying
- **U** •Understanding
- **R** •Remembering

Graphic Math - Operator Exam Prep

Source: Fortune 200 Company on-line exam prep

Use the drawing below to answer the two example questions. (Please note that the dimensions shown on the drawing are not necessarily drawn exactly to scale.) Mark your answers to the questions in the "Examples" box on your answer sheet.

CC 2.MD.5



b. What was the surface area of the side shown in the drawing before the holes were drilled?

a) 24.0 square inches

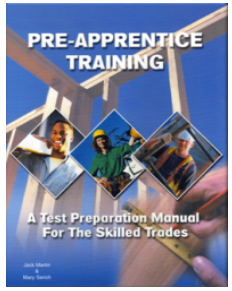
b) 79.0 square inches

c) 84.0 square inches

d) 109.0 square inches

e) N

Reading Comprehension



EXERCISE 4

Time: 6 Minutes

WHERE DOES ELECTRICITY COME FROM?

Where does electricity come from? Some of you may smartly reply, "Electricity comes from the outlet in the wall". If only it was that simple! Let us dig deeper into the making of the electrical power that we take for granted. Electricity is a property of atoms, so to understand where electricity comes from; you will need a general knowledge of atoms.

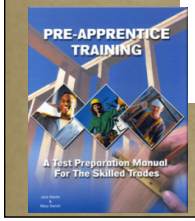
Atoms are the building blocks of all matter. Everything from the book you are reading to the air you are breathing is made up of millions of tiny atoms. Atoms contain several types of electrically charged particles whose structure can be compared to a miniature solar system. An atom contains a large central core (like our sun) called the nucleus. Orbiting around the nucleus are tiny negatively (−) charged particles called electrons. There is a lot of empty space between the nucleus and the orbiting electrons. The nucleus contains two types of particles; neutrons which have no electrical charge (thus the name neutrons for neutral), and protons which have one unit of positive (+) charge each. The electrons orbiting the nucleus are much smaller in size than the neutrons and protons, but have equally as strong a negative electrical charge as the proton has in positive charge. When equal numbers of protons and electrons are found in an atom their charges cancel or balance each others effect to give the atom an overall zero charge. Atoms can be made to lose or gain electrons, which offsets the electrical balance of charges. Atoms with more electrons than protons are said to have a negative overall charge, and atoms with fewer electrons than protons are said to posses a positive charge. Materials made with these charged atoms have electrical potential, which means that they have the ability to produce electricity.

So how do you make atoms give up electrons? There are three ways to make an atom lose electron(s) and, thus, gain an overall electrical negative charge. The first method is friction; rub off the outer orbiting electron(s). The second method is chemical action. The third method involves the use of magnets and wire. These are the three methods used to generate electrical power.

The term static means stationary or non-moving, so, static electricity is non-moving electricity. Static electricity is produced by friction. As two materials rub together electrons are rubbed off from one substance and are picked up by the other substance. You have probably used this technique as a child to make a rubber balloon "stick" to a wall by rubbing it on your hair (your hair picked up a charge too). Sliding across leather car seats in a nylon suit, or walking across a wool rug also generates static electricity from friction. Walking across a wool rug generates friction between your shoes and the rug. Electrons are rubbed off the carpet, so the carpet takes on a positive charge. Your body picks up the electrons removed from the carpet, so your body gains a negative charge. Your body holds that charge (static) until it can be transferred by contact with another object. The sudden release of charge from your body is the static discharge or shock. Lightning is another form of static discharge when huge numbers of atoms become charged. Lightning is generated when rain clouds move rapidly through the atmosphere. The lightning bolt is the immense release of static charge.

Dry cells, lead storage batteries, and all sorts of chemical batteries use chemical action to produce large numbers of free electrons at the negative pole. When the negative pole of a battery is connected to the positive terminal via a conductor (wire), electrical current "flows" through the circuit due to the attraction of unlike charges and the imbalance of charges (electromotive force) of the poles from the chemical action. Batteries produce a current that flows in one direction. Electrical current that flows in one direction is known as direct current or DC.

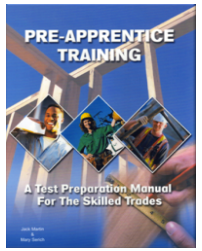
Motors, meters, generators, transformers, and electromagnets all produce electricity from magnets and wires. As the magnetic fields of the magnet "cut" across a coil of wire the atoms in the wire become electrically charged and flow in the wire. In the devices mentioned one of two methods are applied; either a coil of wire rotates around a stationary magnet, or a magnet rotates inside a coil of wire. In either case the north pole of the magnet generates electrical current in one direction and the south pole causes the current to reverse and flow in the opposite direction. The direction of the flow of atoms in the conductor alternates as the north then the south magnetic fields cut the coil of wire. This is called alternating current. The electricity in your home is probably generated by the use of a magnetic core surrounded by a coil of wire.



1. What are the 3 types of particles found in atoms?
   a. Orbits, core, and charges
   b. Protons, nucleus, and electrons
   c. Matter, space, and nucleus
   d. Protons, neutrons, and electrons
   e. None of the above

2. A proton has a single unit of _____ charge and an electron has a single unit of _____ charge.
   a. Neutral, positive
   b. Negative, positive
   c. Positive, negative
   d. Negative, neutral
   e. None of the above

3. Lightning is a form of _____ electricity.
   a. Chemical
   b. Solar
   c. Alternating
   d. Magnetic
   e. None of the above

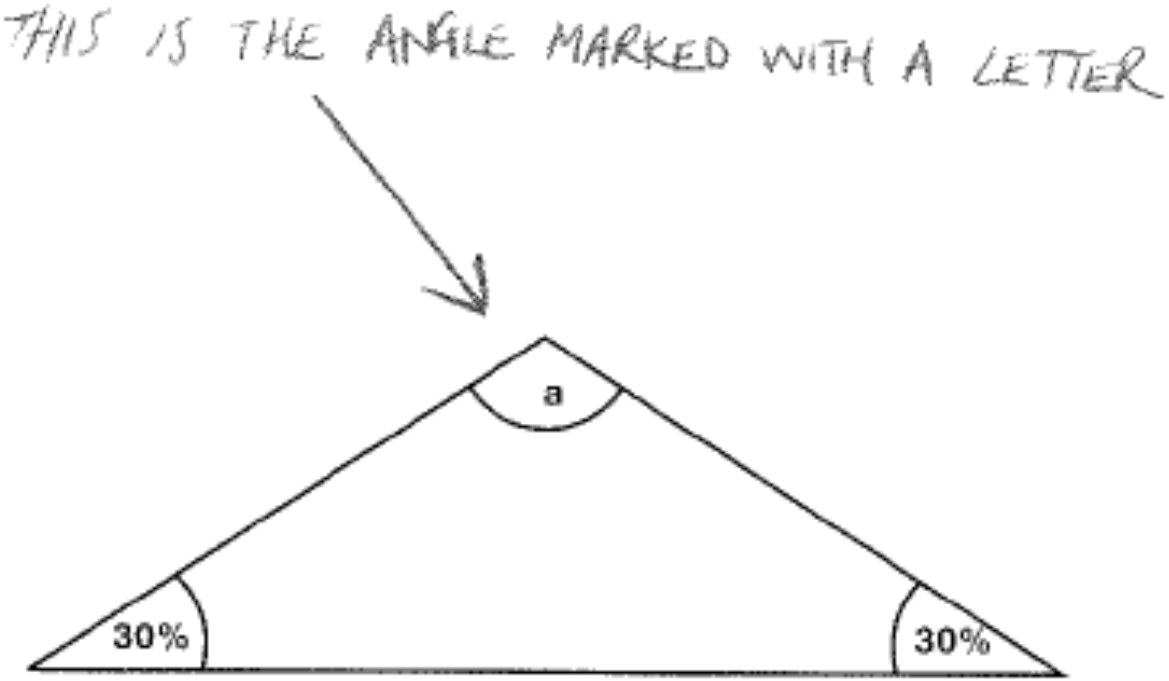


4. Batteries generate electricity from _____.
   a. Chemical action
   b. Friction
   c. Magnets and wires
   d. Transformers
   e. All of the above

5. The article mentioned which three methods commonly used to separate electrons from atoms to generate electrically charged particles?
   a. Chemical, nuclear, and atomic
   b. Solar, magnetic, and lightning
   c. Hydraulic, static, and nuclear
   d. Friction, chemical, and magnets and wires
   e. All of the above

This Won't Work In Industry or the Classroom!

Find the angles marked with letters.



From the Book: F In Exams by Richard Benson

Of course, we all know the answer should be…. 120

ASSEMBLY

The Assembly selection test measures a candidate's ability to visualize the properly assembled form of an object..

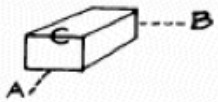
Directions

In this test you are to figure out how something would look if it were put together properly. The parts to be put together are shown at the beginning of each problem and are followed by five pictures showing five different ways the parts could be put together. Only one of them is correct.

Each part is marked with one or more letters, each of which stands for a place on the part. Letters referring to places that do not show are placed outside the part, with a dotted line pointing to the underneath side, or the place that you can't see.

In figure 1 below, the letter A refers to the bottom of the cube. B points to the back of the cube. C refers to the upper front edge of the cube.

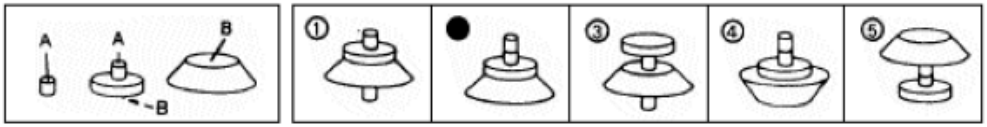
Figure 1



In the test, you are to assemble the parts so that the places having the same letter are put together.

Look at the first sample below. Try to figure out which of the five assemblies is correct.

Sample 1

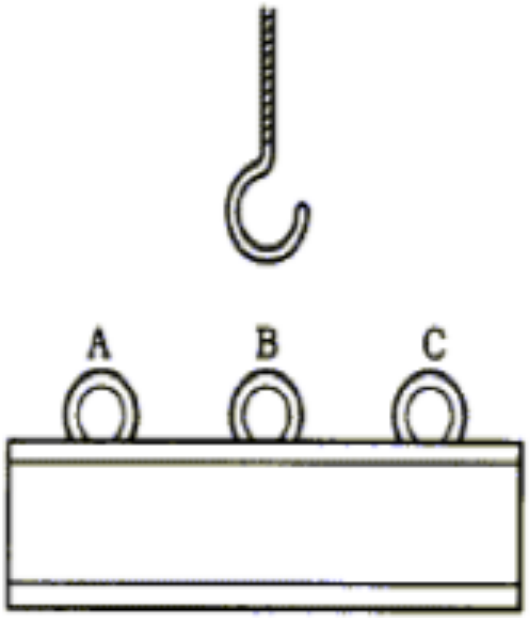


Look at the ends marked A. If the ends marked A were put together, how would they look? Of the five pictures, only pictures 2, 4, and 5 have the ends marked A put together. Now look at the first of the parts marked with a B. Note how the dotted line from B points to the underside, which you cannot see. Which of the pictures 2, 4, and 5 shows the two places marked B put together? Of these three, only picture 2 has the places marked B put together. Therefore, picture 2 is the correct answer. This is the only picture of the five that has all the parts put together in the way the letters show they should be. Therefore, circle 2 has been filled in for Sample 1.

Fortune 200 Industry Exam

Mechanical Concepts Samples

y) To keep the beam horizontal when lifted, at which point should you hook the cable?



○ A
● B
○ C

Source: Fortune 200 Company on-line exam prep

Operator Practice Exam

Source: Fortune 200 Company on-line exam prep

Use the information given below to work problems 1 through 19. For each problem circle the letter in front of the correct answer. If none of the answers is correct, circle answer e, N (for none).

1 mile = 5,280 feet
1 kilogram = 1,000 grams
1 kilometer = 1,000 meters
1 kilogram = 2.205 pounds
1 hand = 10 centimeters
1 yard = 36 inches
1 centimeter = 0.394 inches
1 slug = 14.59 kilograms
1 acre = 160 square rods
1 mile/minute = 88 feet/second
1 acre = 43,560 square feet
1 fathom = 6 feet
1 furlong = 40 rods
1 hogshead = 63 gallons
1 acre = 10 square chains
1 gallon = 3.785 liters
1 gill = .25 pints
1 rod = .25 chains
1 pint = .5 quarts
1 pound = 16 ounces

3) 15 acres = ? square chains
   a. 20
   b. 114
   c. 150
   d. .25
   e. N

4) 0.5 kilometers = ? meters
   a. 300
   b. 500
   c. 120
   d. 790
   e. N

5) 87,120 square feet = ? acres
   a. 1
   b. 3
   c. 36
   d. 2
   e. N

6) 2 kilograms = ? pounds
   a. 5.36
   b. 4.41
   c. 2.12
   d. 16
   e. N

16) 0.5 slugs = ? grams
   a. 8,700
   b. 3,568
   c. 7,295
   d. 5,601
   e. N

17) 3,000 grams = ? pounds
   a. 6.615
   b. 15.9
   c. 5.61
   d. 0.9
   e. N

18) 64 quarts = ? gills
   a. 128
   b. 512
   c. 255
   d. 218
   e. N

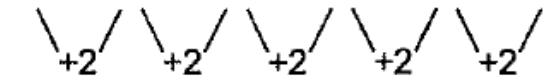
19) 16 quarts = ? pints
   a. 25
   b. 32
   c. 18
   d. 18.72
   e. N

Numerical Reasoning

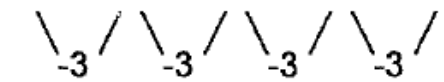
Source: Pipefitter Exam Study Guide

Now look at the following sample problems below. The relationship between the numbers is illustrated and the rule given in parentheses.

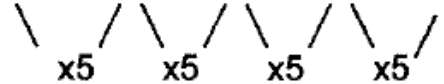
2 4 6 8 10 __12__ (Add 2 to each number in the series.)



98 95 92 89 __86__ (Subtract 3 from each number in the series.)

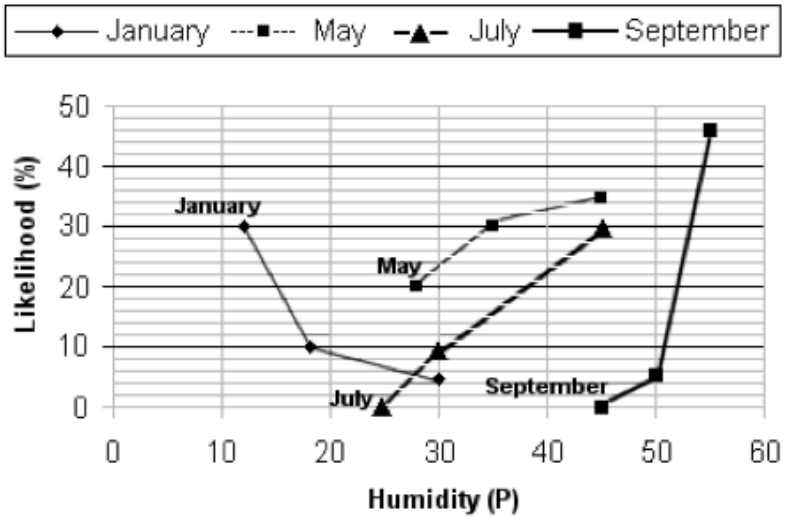


1 5 25 125 __625__ (Multiply each number in the series by 5.)



Practice Test 1:

____	1.	5 10 20 40	A) 100	B) 60	C) 80	D) 120	E) 30
____	2.	5 8 6 9 7 10	A) 8	B) 13	C) 7	D) 14	E) 23
____	3.	74 70 66 62 58	A) 56	B) 64	C) 52	D) 50	E) 54



Tables and Graphs
Fortune 200 Company Online Practice Exam

This graph shows the likelihood (in percentage) for various levels of humidity (in Dew points, P) at different months of the year. There are two types of problems in Part II that make use of graphs like the one shown above.

One type of problem is shown in Sample 1. In this problem you are given likelihood (%) and humidity (P) values and you must find which month's curve crosses the intersection of those two points. In Sample 1, you must follow the line across from 10% until the likelihood (%) and humidity (P) values intersect on a month. The correct answer for Sample 1 is July, and the answer space July has been completely darkened.

Sample 1.

Likelihood (%)	Humidity (P)	January	May	July	September
10	30	O	O	●	O

Look at Sample 2 below. In this problem, the humidity level is 20 Dew points in the month of January. The five possible answers given for likelihood are 30, 9, 18, 50, and 40. Check the graph to see which one is correct.

Sample 2.

Humidity (P)	Month	Likelihood (%)									
20	January	30	O	9	●	18	O	50	O	40	O

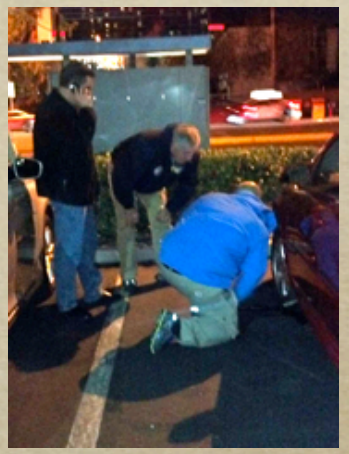
The answer for sample 2 is 9% likelihood, so the circle **to the right** of 9 has been completely darkened.

Manufacturing is STEM

http://www.youtube.com/watch?v=dad-IYtq0c4

What are your thoughts on this?

Where and How?



- *Where can we in the "non-core" implement STEM as a part of our curriculum?*
- *All it takes is a little creative thinking (some might argue boring thinking) about what it is we teach.*

It's Your Turn

Marketing and Profitability Activity: 9-12 A CED 3, K-12 MP.1, 3, 4 (among others)

The MIRN (Math I Really Need) Snack Mix Company assigns you to a team whose goal is to oversee the "launch" of the company's newest snack product.

MIRN's new snack product's **proposed** batch ratios are:

1 part Pretzels
1 part Cheerios
½ part Candy Corn
1 part Corn Chex cereal
1 part Rice Chex cereal
½ part M&Ms

If we were to change the proposed batch ratio, any snack mixture we take to market must contain all of these ingredients. Each ingredient would have a minimum of .5 ounces in the 8 ounce bag while no ingredient could be more than 4 ounces.

1. Taste the product.

2. Brainstorm a name for the new product. _____

Packaging and Product Cost Data:
The product would be sold in 8-ounce packages.

Ingredient costs:

Pretzels	$3.99/20 oz.
Cheerios	$6.49/120 oz.
Candy Corn	$2.99/20 oz.
Corn Chex Cereal	$1.99/13 oz.
Rice Chex Cereal	$1.99/13 oz.
M&Ms	$8.49/42 oz.

3. Based on the proposed batch ratio, calculate each ingredient's weight in an 8 ounce batch.

Pretzels	____ oz.
Cheerios	____ oz.
Candy Corn	____ oz.
Corn Chex Cereal	____ oz.
Rice Chex Cereal	____ oz.
M&Ms	____ oz.

Cost Considerations: Cost, Profit Margin, & Selling Price

4. What is the product cost of an 8-ounce package? ____

5. What would MIRN charge for an 8-ounce package if they wanted a 20% profit margin (based on product cost)? ___

6. What other costs (expenses) are factored into the selling price of this snack product for us to accurately determine our profit margin & or set our price?

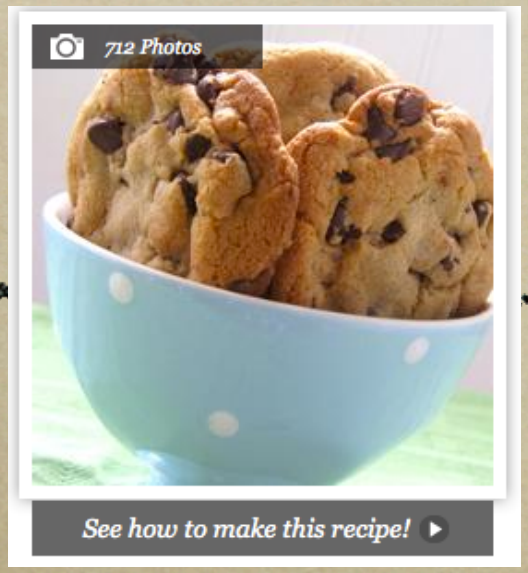
7. What is the least expensive mixture we could produce if we were to alter the proposed batch ratio?

8. Food for thought - Would the formula we find in question 7 be the most profitable for us to bring to market? Why or why not?

This IS higher level math and could go to even more complex levels if we were to incorporate nutrition labels, profit margins, sales data, etc…

More importantly: It is Relevant and Engaging for students. This is "Quadrant D" learning. It is CAREER READY MATH.

Sequential Thinking
Ratios and Proportions
Following Instructions



Not to mention the science behind the cooking process.

Ingredients Edit and Save

Original recipe makes 1 1/2 dozen Change Servings

- [ ] 2 cups all-purpose flour
- [ ] 1/2 teaspoon baking soda
- [ ] 1/2 teaspoon salt
- [ ] 3/4 cup unsalted butter, melted
- [ ] 1 cup packed brown sugar
- [ ] 1/2 cup white sugar
- [ ] 1 tablespoon vanilla extract
- [ ] 1 egg
- [ ] 1 egg yolk
- [ ] 2 cups semisweet chocolate chips

Check All | Add to Shopping List

Watch video tips and tricks


Best Big, Fat, Chewy Chocolate Chip


Absolutely the Best Chocolate Chip Cookies

Directions

1. Preheat the oven to 325 degrees F (165 degrees C). Grease cookie sheets or line with parchment paper.
2. Sift together the flour, baking soda and salt; set aside.
3. In a medium bowl, cream together the melted butter, brown sugar and white sugar until well blended. Beat in the vanilla, egg, and egg yolk until light and creamy. Mix in the sifted ingredients until just blended. Stir in the chocolate chips by hand using a wooden spoon. Drop cookie dough 1/4 cup at a time onto the prepared cookie sheets. Cookies should be about 3 inches apart.
4. Bake for 15 to 17 minutes in the preheated oven, or until the edges are lightly toasted. Cool on baking sheets for a few minutes before transferring to wire racks to cool completely.

PREP **10** mins

COOK **15** mins

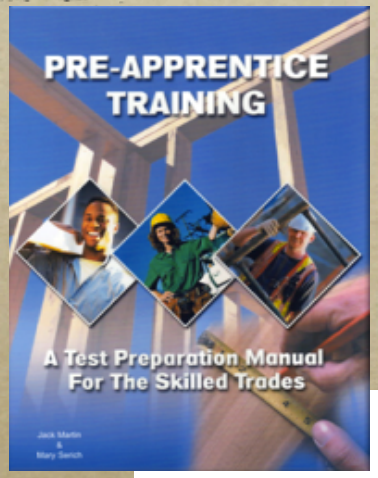
READY IN **40** mins

Any Math in Julian Beever's Work?

Your New Best Friends

- *As we look at Common Core Standards and the way we hope to be assessing students, you will be well ahead of the game in the "relevance, authenticity, and demonstrable skills" component of the Common Core.*

Some Nice Resources



"A workbook designed to help students prepare to pass entrance examinations for the skilled trades."

Written by Jack Martin and Mary Serich

Manual Overviews

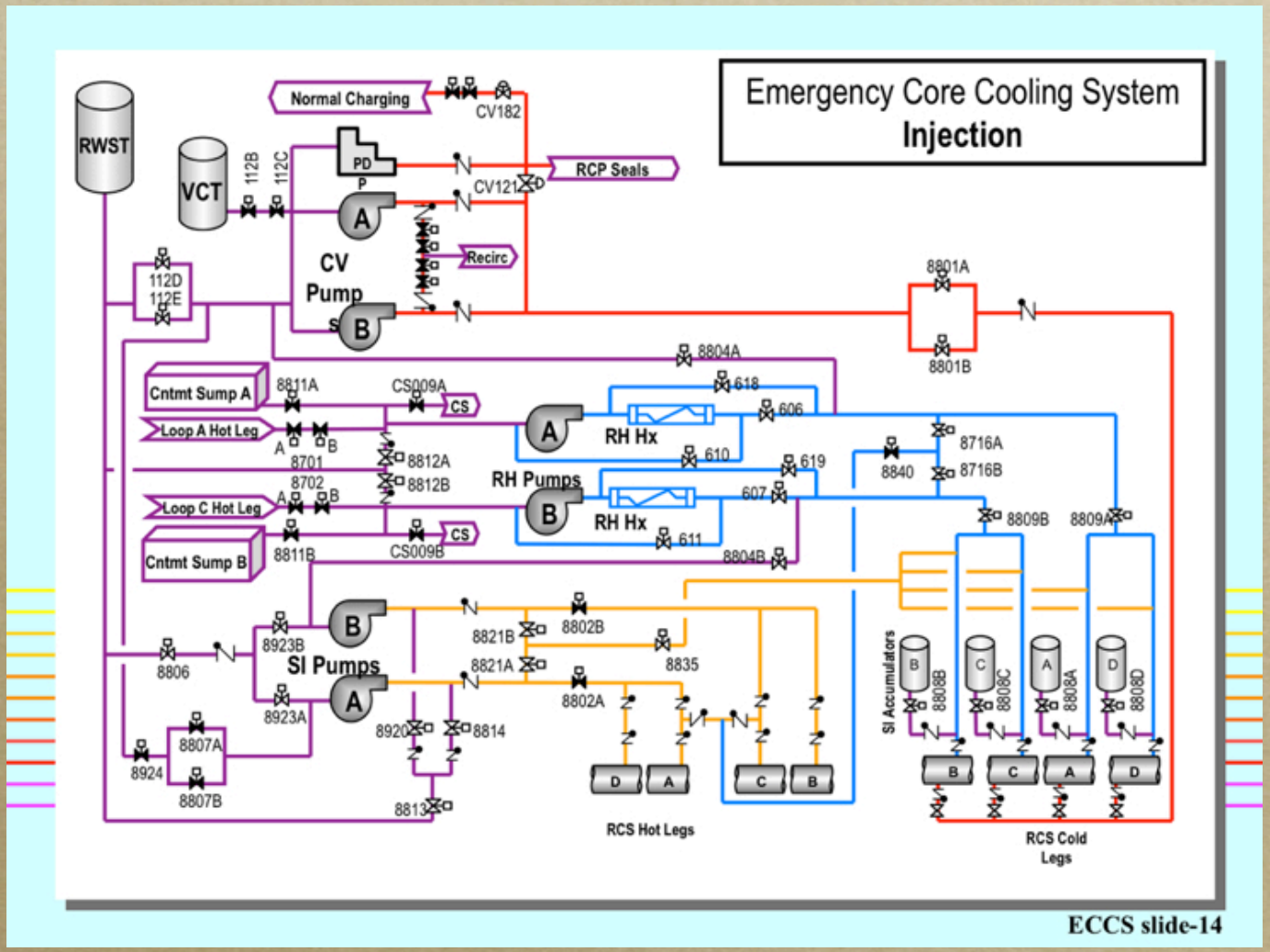
These guides prepare you for electrical, construction, machine, and industrial qualifying exams. Scores have improved on CAST and other apprenticeship tests. This manual is designed to add points to the apprenticeship test score by:

- Developing test specific math skills from whole numbers through algebra and geometry
- Learning how to read a ruler using English and metric units
- Sharpening skills required to score well on mechanical and spatial aptitude tests
- Visualizing objects in 3-dimensions using three view drawings
- Learning technical reading, interviewing and test taking skills
-

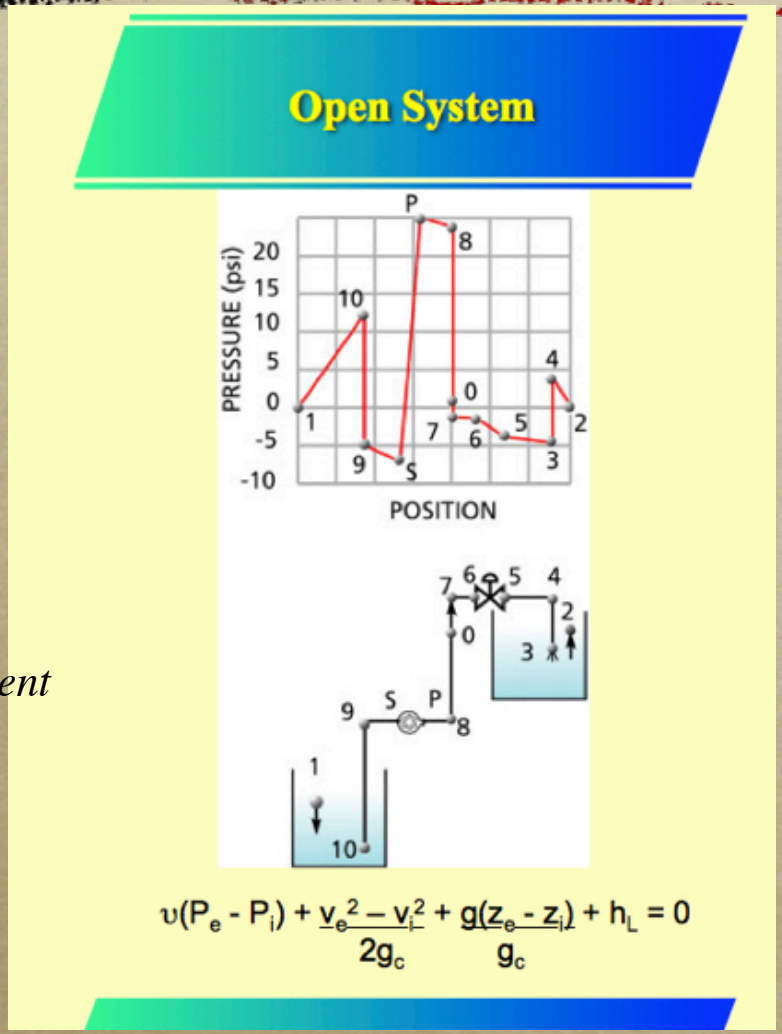
This workbook reinforces the math skills required to score well on most apprenticeship tests. The book correlates with Pre-Apprentice Training - A Test Preparation Manual for the Skilled Trades and provides additional practice in the following areas:

- Whole Numbers
- Fractions and Decimals
- Percentages
- Story Problems
- Algebra
- Polynomials
- Graphing Equations
- Geometry

*An example of where **industry** can take aptitude exam qualified employees.*



As complex as this may appear, it is order of operations



Fortune 200 Training Document

summary part 1

- Contextual learning is for “all” students, not just “those” students. (Geometry in Construction)
- USBLS- 75% of projected job openings in the decade ahead need less than an Associate degree.
- Industry no longer has the time/money for developmental training. They expect the “school systems “to teach those skills and industry will do the “technical tweaking” or specific job related skills to remain competitive.
- Industry “pays for skills” and STEM training/integrated approach to education seems to be a viable way of pursuing both a career and a postsecondary degree or credential simultaneously.
- Practices that practically “eliminate potential technicians” from STEM programs are (1) requiring STEM students to take advanced math courses including Pre-calculus and sometimes calculus, (2) or requiring them to choose advanced courses designed to lead into BS science, engineering and information technology programs. (“Career Pathways for STEM technicians”- Dan Hull) WOW!!

Summary Continued

* Many potential STEM technicians may be in the middle quartiles of math and science achievement. These students are interested in math and science and are "hands on" or "contextual/applied" learners with strong spatial learning abilities ("Career Pathways for STEM Technicians"-Dan Hull)

* While many STEM careers require bachelor's or graduate degrees, a large sector of the STEM labor market requires expertise in technical work and other specialties that need less than a bachelor's degree (BLS).

* Overall, BLS estimates that nearly half (45%) of all job openings in the next ten years will require middle level skill. (STEM technicians that are high skill, high wage and high demand in the workforce)

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Sources

- Nationalcareerreadiness.org
- Exeloncorp.com
- Bennett Mechanical Comprehension Practice Test
- Caterpillar Non-Management Selection Process
- Pre-Apprentice Training (Jack Martin & Mary Serich)
- Bureau of Labor Statistics Occupational Outlook Handbook
- National Research Center for Career and Technical Education
- Mike Rowe testimony - http://www.youtube.com/watch?v=cC0JPs-rcF0
- Central Illinois Manufacturing Association You tube clip - http://www.youtube.com/watch?v=P9-iTAFlIVk
- "Career Pathways for Stem Technicians" – Dan Hull
- "The Global Achievement Gap "– Tony Wagner
- Science and Engineering work force data - http://www.computerworld.com/s/article/9224823/Science_and_engineering_workforce_has_stalled_in_U.S._report_says
- STEM skills listing - http://www.iseek.org/careers/stemskills.html
- "F In Exams" – Richard Benson
- Medical Assistant Practice Exam -http://www.proprofs.com/quiz-school/story.php?title=ncct-offical-practice-test-m
- www.recipes.com, www.denverpost.com
- www.julianbeever.net