

# Applied Mathematics Formula Sheet

## Distance

- 1 foot = 12 inches
- 1 yard = 3 feet
- 1 mile = 5,280 feet
- 1 mile  $\approx$  1.61 kilometers
- 1 inch = 2.54 centimeters
- 1 foot = 0.3048 meters
- 1 meter = 1,000 millimeters
- 1 meter = 100 centimeters
- 1 kilometer = 1,000 meters
- 1 kilometer  $\approx$  0.62 miles

## Area

- 1 square foot = 144 square inches
- 1 square yard = 9 square feet
- 1 acre = 43,560 square feet

## Volume

- 1 cup = 8 fluid ounces
- 1 quart = 4 cups
- 1 gallon = 4 quarts
- 1 gallon = 231 cubic inches
- 1 liter  $\approx$  0.264 gallons
- 1 cubic foot = 1,728 cubic inches
- 1 cubic yard = 27 cubic feet
- 1 board foot = 1 inch by 12 inches by 12 inches

## Weight/Mass

- 1 ounce  $\approx$  28.350 grams
- 1 pound = 16 ounces
- 1 pound  $\approx$  453.592 grams
- 1 milligram = 0.001 grams
- 1 kilogram = 1,000 grams
- 1 kilogram  $\approx$  2.2 pounds
- 1 ton = 2,000 pounds

## Rectangle

- perimeter =  $2(\text{length} + \text{width})$
- area =  $\text{length} \times \text{width}$

## Rectangular Solid (Box)

- volume =  $\text{length} \times \text{width} \times \text{height}$

## Cube

- volume =  $(\text{length of side})^3$

## Triangle

- sum of angles =  $180^\circ$
- area =  $\frac{1}{2}(\text{base} \times \text{height})$

## Circle

- number of degrees in a circle =  $360^\circ$
- circumference  $\approx 3.14 \times \text{diameter}$
- area  $\approx 3.14 \times (\text{radius})^2$

## Cylinder

- volume  $\approx 3.14 \times (\text{radius})^2 \times \text{height}$

## Cone

- volume  $\approx \frac{3.14 \times (\text{radius})^2 \times \text{height}}{3}$

## Sphere (Ball)

- volume  $\approx \frac{4}{3} \times 3.14 \times (\text{radius})^3$

## Electricity

- 1 kilowatt-hour = 1,000 watt-hours
- amps = watts  $\div$  volts

## Temperature

- $^\circ\text{C} = 0.56 (^\circ\text{F} - 32)$  or  $\frac{5}{9} (^\circ\text{F} - 32)$
- $^\circ\text{F} = 1.8 (^\circ\text{C}) + 32$  or  $(\frac{9}{5} \times ^\circ\text{C}) + 32$

**NOTE:** Problems on the WorkKeys *Applied Mathematics* assessment should be worked using the formulas and conversions on this formula sheet.

## Applied Mathematics Level 3

Individuals with Level 3 skills can set up and solve problems with a single type of mathematical operation (addition, subtraction, multiplication, or division) on whole numbers, fractions, decimals, or percentages.

1. You are a circus equipment manager. You need to know the combined weight of the performers on the high-wire act. The performers weigh 175 pounds, 154 pounds, and 118 pounds. What is the total weight of the performers, in pounds?
  - A. 211
  - B. 293
  - C. 329
  - D. 447
  - E. 500
  
2. The fraternity house you manage has 6,270 square feet of lot space. City ordinance allows one student for every 330 square feet of lot space. How many students can live in this house?
  - A. 19
  - B. 33
  - C. 297
  - D. 594
  - E. 5,940
  
3. A grocer takes delivery of beverages from your truck at \$6 per case. You unloaded 53 cases for the grocer today. How much does the grocer owe you?
  - A. \$ 9
  - B. \$ 47
  - C. \$ 59
  - D. \$318
  - E. \$653

## Applied Mathematics Level 4

Individuals with Level 4 skills can set up and solve problems with one or two different mathematical operations (addition, subtraction, multiplication, or division) on whole numbers, fractions, decimals, or percentages.

1. At the greenhouse where you work you need to make soil and vermiculite mixtures for potting plants. Flowering bushes need a mixture of 70% soil and 30% vermiculite by volume. About how many buckets of vermiculite should you add to 5 buckets of soil?

A. 1.5  
B. 2.0  
C. 3.5  
D. 6.0  
E. 11.5

2. The Zippy Lube business where you work printed coupons offering \$8.00 off any oil change this month. An oil change costs \$19.95 and a new oil filter costs \$4.95. A customer comes in with a coupon and has you change the oil and filter. Before adding the tax, how much should you charge the customer?

A. \$11.95  
B. \$16.90  
C. \$24.90  
D. \$27.95  
E. \$32.90

3. You are repairing an engine and need to loosen a bolt that fastens the alternator bracket to the engine. You tried a  $\frac{3}{4}$ -inch wrench, which was too large, and a  $\frac{5}{8}$ -inch wrench, which was too small. Which of the following wrenches is between these two sizes?

A.  $\frac{5}{16}$ -inch  
B.  $\frac{3}{8}$ -inch  
C.  $\frac{9}{16}$ -inch  
D.  $\frac{11}{16}$ -inch  
E.  $\frac{7}{8}$ -inch

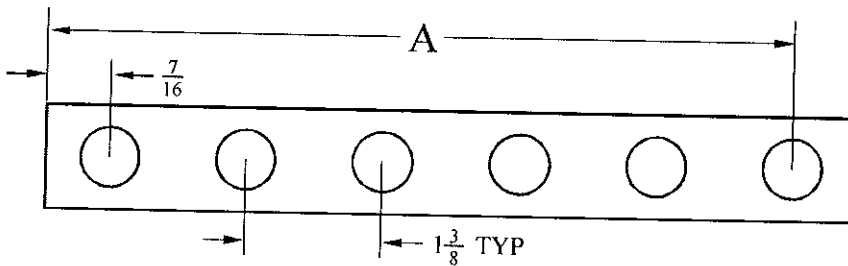
## Applied Mathematics Level 5

Individuals with Level 5 skills can set up and solve problems with several steps of logic and calculation involving a mixture of whole numbers, fractions, decimals, or percentages.

1. A refrigeration system at your company uses temperature sensors fixed to read Celsius ( $^{\circ}\text{C}$ ) values, but the system operators in your control room understand only the Fahrenheit scale. You have been asked to make a Fahrenheit ( $^{\circ}\text{F}$ ) label for the high temperature alarm, which is set to ring whenever the system temperature rises above  $-10^{\circ}\text{C}$ . What Fahrenheit value should you write on the label?

- A.  $-50^{\circ}\text{F}$
- B.  $-23^{\circ}\text{F}$
- C.  $-18^{\circ}\text{F}$
- D.  $14^{\circ}\text{F}$
- E.  $26^{\circ}\text{F}$

2. Pictured below is a piece of steel with six holes drilled in it. As inspector for your machine shop, it is your duty to check the part. TYP is short for "typical", and it means all holes are  $1\frac{3}{8}$  inches from the center of one hole to the center of the next. What is dimension  $A$ ?



- A.  $5\frac{15}{16}$
  - B.  $6\frac{7}{8}$
  - C.  $7\frac{1}{16}$
  - D.  $7\frac{5}{16}$
  - E.  $8\frac{11}{16}$
3. At your hardware store, you buy hammers for \$30.00 a dozen and sell them for \$3.50 each. What is the percent markup for the hammers?
- A. 29%
  - B. 40%
  - C. 42%
  - D. 58%
  - E. 71%

## Applied Mathematics Level 6

Individuals with Level 6 skills can set up and solve problems containing unnecessary information and requiring multiple steps. Calculations involve a mixture of whole numbers, fractions, decimals, or percentages.

1. You plan to attend night school in 3 months so you can qualify for a promotion at work. You need to earn an additional \$1,140 for tuition within that time. You take a second job, which pays \$8 per hour. The work schedule is flexible, and you can work as many hours as you want. Taxes take 15% of your wages and you save the rest. Over the next 3 months, what is the minimum number of hours you could work each month to earn the money for tuition?
  - A. 14
  - B. 48
  - C. 56
  - D. 84
  - E. 168
  
2. You work for a landscaper that has a customer needing to seed an area of land 80 feet by 40 feet in size. The garden center has 5-pound bags of grass seed. Each bag of seed can cover 25 square yards of land. Based on your calculations, how many bags of grass seed do you need to cover the lot?
  - A. 14
  - B. 15
  - C. 25
  - D. 43
  - E. 128
  
3. You work at a bridal shop. You need to find out how much satin you will need to make four bridesmaids' dresses and two flower girls' dresses. Each bridesmaid's dress requires  $4\frac{3}{8}$  yards of satin, and each flower girl's dress requires  $3\frac{2}{3}$  yards of satin. How many yards of satin do you need in all?
  - A.  $14\frac{1}{24}$
  - B.  $17\frac{1}{2}$
  - C.  $23\frac{1}{24}$
  - D.  $24\frac{2}{5}$
  - E.  $24\frac{5}{6}$

## Applied Mathematics Level 7

Individuals with Level 7 skills can set up and solve complex problems requiring extensive calculations. They can calculate rate of change, set up and manipulate complex ratios and proportions, find multiple areas or volumes of two- and three-dimensional shapes, find the best economic value of several alternatives, and locate errors in multiple-step calculations.

1. You design and build furniture, and you have agreed to build a bookcase for a customer. Using a materials list, you determine that you need 4 boards 1 inch by 8 inches by 6 feet and 3 boards 1 inch by 6 inches by 4 feet. These boards are priced at \$1.25 per board foot. In addition, you will need 3 packages of screws at \$0.79 each and one can of varnish at \$3.75. Sales tax is 6%. What will be the total cost of all the materials for the bookcase, including tax?

- A. \$33.62
- B. \$33.96
- C. \$35.64
- D. \$41.91
- E. \$54.19

2. You have a 30-amp power strip with four outlets. The power source is 110 volts. Based on the information shown, which of the following combinations of devices could you use on this power strip?

Drill Press	1320 watts
Bench Grinder	1100 watts
Orbital Sander	880 watts
½" Drill	605 watts
Worklight	150 watts

- A. Drill press, bench grinder, orbital sander, ½ " drill
  - B. Drill press, bench grinder, orbital sander, worklight
  - C. Drill press, orbital sander, two ½ " drills
  - D. Drill press, orbital sander, ½ " drill, worklight
  - E. Bench grinder, orbital sander, two ½ " drills, worklight
3. It is your job to clean and maintain the fish tank in a dentist's office. The tank is 4 feet long and 2 feet wide. The water in it is about 2 feet deep. To treat the water in the tank, you need to add 1 teaspoon of disinfecting solution for every 10 gallons of water. About how many teaspoons of the solution will you need to add to the tank?
- A.  $\frac{1}{2}$
  - B.  $1\frac{1}{2}$
  - C. 12
  - D. 31
  - E. 120

## Reading for Information Level 3

Individuals with Level 3 skills understand basic words and can identify main ideas. They understand how and when to follow each step in a set of instructions and can use the instructions in situations that are the same as the one they are reading about. Level 3 materials include simple instructions, company policies, and announcements. They are short and straightforward, and contain basic vocabulary.

### Memorandum

TO: All Production Employees  
FROM: John Logan, Production Manager  
SUBJECT: New Tool Policy

We will be changing from the 5-piece tool kits you each have to a standard set of all 8 tools. Each employee will no longer have a set of tools. Instead, one new tool set will be placed in each workstation's toolbox.

The new tool sets will be put at each station on the 3rd of next month. You must turn in the old tool kit that you have been using to the tool room at that time. You must pay for any tools missing from your tool kit when you turn it in.

You must report any missing tools from the new tool set. Get replacements if necessary. Tools will be sharpened four times a month by maintenance. At other times, take dull tools to the tool room and exchange them for new ones.

1. According to the memo shown, who must report any missing tools?
    - A. Maintenance employees
    - B. Production employees
    - C. The production manager
    - D. The tool room supervisor
    - E. The workstation manager
-

To: All Dietary Staff

From: Supervisor

RE: ITEMS TO MAKE WORK A BETTER PLACE

When throwing away empty boxes, please make sure all of them are broken down. Flatten them before throwing them in the dumpster. Our back parking lot was just resurfaced last Friday. It looks very tacky if trash is all over it. Please stack the milk crates neatly by the back door instead of just throwing them on the ground.

Please check in the dish room area for late trays. Break down all trays before going home. Put the napkins in the trash and the silverware in the dishwasher baskets. Put the plates and glasses to be washed in the dishwasher racks. You do not need to turn the dishwasher back on.

2. You work in the kitchen of a hospital. According to the memo shown, where should you put empty milk crates?
- A. By the back door
  - B. In the dish room
  - C. In the dumpster
  - D. In the milk truck
  - E. Next to the dishwasher
3. As part of your job in the hospital kitchen, you must clean the trays. According to the memo shown, where should you put the silverware from the trays?
- A. In the dish room
  - B. In the dishwasher baskets
  - C. In the dishwasher racks
  - D. In the drawer
  - E. In the trash
-



## Reading for Information Level 4

Individuals with Level 4 skills can apply instructions to situations that are the same as the situations in the reading materials. They can identify cause-effect relationships and understand words that are not defined for them, based on the context. Level 4 materials may include several details or describe processes involving several steps.

### Chadwick Senior High School Fire Drill Schedule Notice

After the occurrence of a fire drill on any regular school day, there will be schedule changes to allow the school day to end at its normal time of 3:00 p.m. Fire drills normally last a duration of 15-20 minutes. The period in which the fire drill began is considered finished at the end of the fire drill. When the fire drill is over, an announcement will be made over the P.A. system informing all faculty, staff, and students what period is about to commence, so everyone knows where he or she is supposed to be.

If the fire drill takes place during period 1, then all subsequent periods are 42 minutes long, rather than 45, and bells will ring accordingly. If the fire drill takes place any time during periods 2 through 6, then all subsequent periods will be 40 minutes long and bells will ring accordingly. If the fire drill takes place during the second to last period (7), then the last period (8) will be 38 minutes long and bells will ring accordingly.

1. You are a teacher's assistant at Chadwick Senior High School. According to the notice shown, if a fire drill takes place during period 1, each of the remaining periods will last:
    - A. 20 minutes.
    - B. 38 minutes.
    - C. 40 minutes.
    - D. 42 minutes.
    - E. 45 minutes.
-

# High Plains Insurance

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FROM: James R. Whitney, Chief Executive Officer  
TO: Sales Division

You are encouraged to attend a seminar titled "Techniques for Customer Retention" on July 14. It is from 9:00 A.M. to 4:00 P.M. at the Hotel DeMeers. During the noon break, lunch will be served. If you want to eat at the seminar luncheon, bring \$8.50 that day to purchase your meal. You must make that lunch reservation by 3:00 P.M. on July 10. Just contact the Human Resources Division's Victor Luchetti or Gloria Rogers.

We expect a lot of traffic in our building that morning. Therefore, departments will be released to leave for the seminar at different times. Check your department bulletin board.

Limited parking at the hotel prevents employees from driving individually. Employees attending the seminar should ride the city bus unless they travel in a carpool. We recommend the bus. If you need to carpool, check your department bulletin board. It will have a sign-up sheet for volunteer drivers. The city bus schedule for that day is as follows:

Leaves Tremont St. at 8:22; arrives at the Hotel DeMeers at 8:43.  
Leaves Tremont St. at 8:32; arrives at the Hotel DeMeers at 8:51.

Notify your supervisor of any problem that would prevent you from attending.

2. You are planning to carpool to the seminar. According to this memo, how should you determine when to leave?
- A. Ask Gloria Rogers.
  - B. Ask James R. Whitney.
  - C. Ask your supervisor.
  - D. Check the department bulletin board.
  - E. Look at the carpool sign-up sheet.
3. You work in the sales division and will be on a business trip on July 14. According to the memo shown, you should:
- A. check the bulletin board for information about the next seminar.
  - B. tell Gloria Rogers about your business trip.
  - C. tell Victor Luchetti that you will be out of town then.
  - D. tell your supervisor about your travel plans.
  - E. use the sign-up sheet to volunteer for the next seminar.
-

## Reading for Information Level 5

Individuals with Level 5 skills can apply information from reading materials to new situations that are similar to those described in the materials and they can understand words and phrases with specialized or multiple meanings. Level 5 materials include company policies, procedures, and announcements. All the information in them is stated clearly and directly, but there are many details.

**Message**

From: ford.kris at PO3

To: hartman.matt at PO3

Subject: login

Sent: Tuesday, 10:43 AM

Attachments:

Recent security upgrades to network servers have resulted in some confusion regarding login screens. A procedure for handling the most common occurrence is described below. You may want to print this out so you can refer to it when logged out of the network. To prevent your network login from creating a second login screen, follow this procedure:

At startup, your machine will present your server login screen (how you log in to the network).  
Click the More button in the lower right corner of the dialog box.  
Four tabs will appear in the extended area of the dialog box. Choose the System tab by clicking on it.  
The options in this tab will include one for local username. Enter the username that matches your server account (same as your e-mail, I would expect). Then enter your password in the main dialog box, where it always goes, and log in.

- Kris

1. If you follow the steps of this procedure, what situation will you correct?
    - A. Being logged out of the network
    - B. Having a second login screen appear
    - C. Having to enter a password
    - D. Logging into an unmatched server account
    - E. Receiving unnecessary attachments
-



## Vision Plus Program



All employees and their dependents are entitled to eye care under the Vision Plus Program. Members may visit a participating optometrist or ophthalmologist without getting a referral from your primary care physician. Members should see the Participating Physician Directory for participating optometrists and ophthalmologists in their area. The Vision Plus Program covers routine eye examinations, though there will be a copayment for each exam.

Plan members 50 years of age and over or plan members who wear eyeglasses or contact lenses are eligible to have an eye examination once in every 24-month period, unless they are under the age of 21, in which case the plan covers an eye examination once in every 12-month period. Members who do not wear eyeglasses or contact lenses and who are under the age of 50 are covered once in every 36-month period. Members 50 years of age and over who wear eyeglasses or contact lenses may receive an eye exam once in every 12-month period. Any time you experience eye problems or difficulties, see your primary care physician, who will refer you to an ophthalmologist if deemed medically appropriate. For emergency eye care outside of your primary care physician's regular office hours, follow the guidelines for emergency care as outlined in your Orion Healthcare Benefits Program booklet.

Prescription eyeglasses or contact lenses may be purchased anywhere. Mail your paid receipt to Orion Healthcare to receive up to \$100 in reimbursement. This reimbursement is available once in any 24-month period.

2. You answer the hotline for plan members who have questions about the Vision Plus Program. A 38-year-old plan member calls because she suspects that she has a slight infection in her eye. She does not wear eyeglasses or contact lenses. Based on the policy shown, you should advise the plan member to:
- A. consult her Participating Physician Directory for the name of an ophthalmologist.
  - B. determine how many months have passed since her last eye exam.
  - C. go to the hospital emergency room, as outlined in the benefits program booklet.
  - D. see an ophthalmologist, and expect to make a copayment at that time.
  - E. see her primary care physician.
3. You are a Vision Plus Program member. You have not had your eyes checked in several years. During a routine eye exam, you are told that you need eyeglasses. According to the policy, you should:
- A. apply for reimbursement in 24 months.
  - B. consult the Participating Physician Directory to find an approved vision center.
  - C. find glasses with the correct prescription for no more than \$100.
  - D. mail a request for the \$100 reimbursement to Orion Healthcare.
  - E. purchase the glasses and mail the receipt to Orion Healthcare.
-

## Reading for Information Level 6

Individuals with Level 6 skills can read and understand complex documents and generalize from the materials to new situations. They can correctly apply complex instructions from these materials and understand the rationale behind policies and procedures described in the materials. Level 6 materials may include complex regulatory and legal documents, and rental agreements.

### Section 199.781

- (1) A multiple lift shall only be performed if the following criteria are met:
  - (i) A multiple lift rigging assembly is used;
  - (ii) A maximum of five members are hoisted per lift;
  - (iii) Only beams and similar steel structural members are lifted; and
  - (iv) All employees engaged in the multiple lift have been trained in these procedures.
  - (v) No crane is permitted to be used for a multiple lift where such use is contrary to the manufacturer's specifications and limitations.
- (2) Components of the multiple lift rigging assembly shall be specifically designed and assembled with a maximum capacity for total assembly and for each individual attachment point. This capacity, certified by the manufacturer or a qualified rigger, shall be based on the manufacturer's specifications with a 5-to-1 safety factor for all components.
- (3) The total load shall not exceed:
  - (i) The rated capacity of the hoisting equipment specified in the hoisting equipment load charts;
  - (ii) The rigging capacity specified in the rigging rating chart.
- (4) The multiple lift rigging assembly shall be rigged with members:
  - (i) Attached at their center of gravity and maintained reasonably level;
  - (ii) Rigged from top down; and
  - (iii) Rigged at least 7 feet apart.
- (5) The members on the multiple lift rigging assembly shall be set from the bottom up.
- (6) Controlled load lowering shall be used whenever the load is over the connectors.



1. In Section 199.781, as shown, the term **members** refers to:
    - A. beams and similar steel structures.
    - B. components of the rigging assembly.
    - C. cranes used to perform multiple lifts.
    - D. employees who perform multiple lifts.
    - E. the rigging manufacturers.
  
  2. As a construction worker, you are assisting with a multiple lift of five steel beams. The multiple lift rigging assembly is rigged with the beams attached at their center of gravity and kept level, rigged from the top down, and 6 feet apart. This multiple lift is NOT lawful under Section 199.781, as shown, because:
    - A. it has too few beams.
    - B. it has too many beams.
    - C. the beams are rigged too close together.
    - D. the beams are rigged too far apart.
    - E. the beams should be rigged from the bottom up.
  
  3. As specified in Section 199.781, a qualified rigger is responsible for:
    - A. certifying the maximum capacity of multiple lift rigging assembly components.
    - B. designing and assembling components of the multiple lift rigging assembly.
    - C. operating a crane for a multiple lift according to the manufacturer's specifications and limitations.
    - D. supervising controlled load lowering whenever the load is over the connectors.
    - E. training employees engaged in multiple lifts when a multiple lift rigging assembly is used.
-

## Reading for Information Level 7

Individuals with Level 7 skills can figure out the underlying principles in complex documents and apply them to situations that are quite different from any described in the materials. They can understand unfamiliar terms from the context. Level 7 materials are densely detailed passages, such as excerpts from complex regulatory and legal documents. They contain complicated concepts and procedures. The language includes jargon and technical terms.

### Section 342f. Unfair Practices

A debt collector may not use unfair or excessive means to collect or attempt to collect any debt, and such unfair or excessive means would constitute grounds for punishment under the statutes of this commonwealth. The following conduct is a violation of this section:

- 1) The false representation that any debt collector is affiliated with or employed by the United States Government or any relevant state or local government;
- 2) The collection of any amount (including any interest, fee, charge, or expense incidental to the principal obligation) from any indebted consumer unless such amount is expressly authorized by the agreement creating the original debt;
- 3) The publication of a list of consumers who allegedly refuse to pay debts;
- 4) The solicitation by a debt collector of any postdated check for the purpose of threatening criminal prosecution;
- 5) Causing charges to be made to any person by concealing the true purpose of the communication. Such charges include, but are not limited to, collect telephone calls and telegrams;
- 6) Engaging any person in telephone conversation repeatedly or continuously with intent to annoy, abuse, or harass;
- 7) Communicating with a consumer via a postcard, or other unsealed, indiscreet mail device, regarding a debt;
- 8) Using any language or symbol, other than the debt collector's address, on any envelope when communicating with a consumer by use of the mails, except that a debt collector may use his or her business name in the return address if that name does not indicate that he or she is in the debt collection business.

1. As a debt collector you send a letter with no return address, asking a man for full payment of a medical bill by the end of the following week. When he does not pay, you phone him and ask for payment. He claims that you are harassing him. Based on Section 342f, is he correct?
    - A. No, because there was no violation with either the letter or the phone call.
    - B. No, because your letter did not threaten criminal prosecution.
    - C. Yes, because the telephone call constitutes intentional harassment.
    - D. Yes, because you contacted him repeatedly.
    - E. Yes, because you misrepresented yourself on the envelope.
  
  2. You work for a private company and you are trying to contact an indebted consumer who hangs up the phone as soon as you identify yourself. Based on Section 342f, to contact this person, you should:
    - A. call once more and say that you work for the U.S. government.
    - B. continue to call until the consumer stays on the phone.
    - C. hire a messenger to deliver the information at the consumer's expense.
    - D. leave an unsealed note with the consumer's employer.
    - E. mail the information to the consumer in a plain white envelope.
  
  3. You contacted an indebted consumer who agrees to pay off the original debt, but refuses to pay your company's fee of \$30. Will you violate Section 342f if you demand payment of this charge?
    - A. No; the consumer is liable for all expenses incidental to the principal obligation.
    - B. No; this fee must be paid if it was agreed upon during the origination of the debt.
    - C. Yes; solicitation by a debt collector for any amount, including a fee, is not permitted.
    - D. Yes; the fee charged to the consumer by your company is excessive and unfair.
    - E. Yes; your attempts to collect your company's fee would be considered harassing.
-

## Locating Information Level 3

Level 3 workplace graphics are elementary. They may be simple order forms, bar graphs, tables, flowcharts, maps, instrument gauges, or floor plans. At Level 3, examinees use one graphic at a time.





When examinees have Level 3 *Locating Information* skills:

- They can find one or two pieces of information in a graphic.
- They can fill in one or two pieces of information that are missing from a graphic.

1. Your job is to insert the Moon phase symbols into the calendars your company produces. According to the table, which Moon phase symbol, if any, should you paste on March 28?



E. No Moon phase symbol should be inserted on March 28.

<b>Moon Phase</b>	January	February	March	April
First Quarter 	6	4	6	4
Full 	13	11	13	11
Last Quarter 	20	18	20	18
New 	27	26	28	26

2. As a cashier, you close out your register by completing a closing form and putting the drawer contents into a bank bag. According to the closing form shown, what is the amount in checks?
- A. \$ 100.00
  - B. \$ 567.87
  - C. \$ 643.78
  - D. \$ 989.04
  - E. \$2,568.83

<i>CLOSING FORM</i>	
Employee Name: Shekela Portero	Date: 01/09
Employee Number: 228	Register Number: 334
<u>Coins</u>	Dollar Amount
Pennies	1.43
Nickels	5.65
Dimes	4.10
Quarters	7.75
<u>Currency</u>	
Ones	19.00
Fives	25.00
Tens	60.00
Twenties	40.00
Hundreds	100.00
<u>Checks</u>	567.87
<u>Credit Cards</u>	
VCharge	643.78
CardMaster	989.04
American Direct	105.21
Total	2,568.83
Quick Credits <u>  0  </u>	
Referrals <u>  4  </u>	

3. You work in the head office of a large company. A client calls from New York and wants to talk to the account executive for that region. Who should the client talk to?
- A. Alice Anderson
  - B. Lars Larson
  - C. Kelly Carney
  - D. Thurmond Salkick
  - E. Dan Elizondo

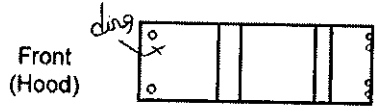
<b>Sales Region</b>	<b>Account Executives</b>	<b>States Assigned</b>
<b>East Central</b>	<b>Alice Anderson</b> 804/555-7834	DC, Delaware, Kentucky, Maryland, Ohio, Virginia, West Virginia
<b>Great Lakes</b>	<b>Lars Larson</b> 616/555-4506	Illinois, Indiana, Michigan, Wisconsin
<b>Midwest</b>	<b>Kelly Carney</b> 816/555-5309	Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, Oklahoma, South Dakota, Texas
<b>Northeast</b>	<b>Thurmond Salkick</b> 717/555-1745	Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont
<b>Southeast</b>	<b>Dan Elizondo</b> 904/555-2891	Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee

4. A customer has returned a rental car. What damages, as indicated on the form shown, were present before the car was rented?
- A. A ding on the hood and a scratch on the driver's side
  - B. A ding on the hood and a scratch on the passenger's side
  - C. A ding on the hood only
  - D. A scratch on the hood and a ding on the driver's side
  - E. A scratch on the hood only

*Linn's Rentals*  
Pre-rental Inspection


Car No. # 41108  
 License No. 370 LLO  
 Space 43 Color Red  
 Model KXZ  
 Gas F Oil OK  
 Mileage 20,312

Front  
(Hood)




Back  
(Trunk)

Top



Driver



Passenger

Damage see above

Service Technician Kathy  
 Customer J Grey

14R-DC

## Locating Information Level 4

Level 4 workplace graphics are straightforward. They may be basic order forms, diagrams, line graphs, tables, flowcharts, instrument gauges, or maps. At Level 4, examinees may work with one or two graphics at a time.

When examinees have Level 4 *Locating Information* skills:

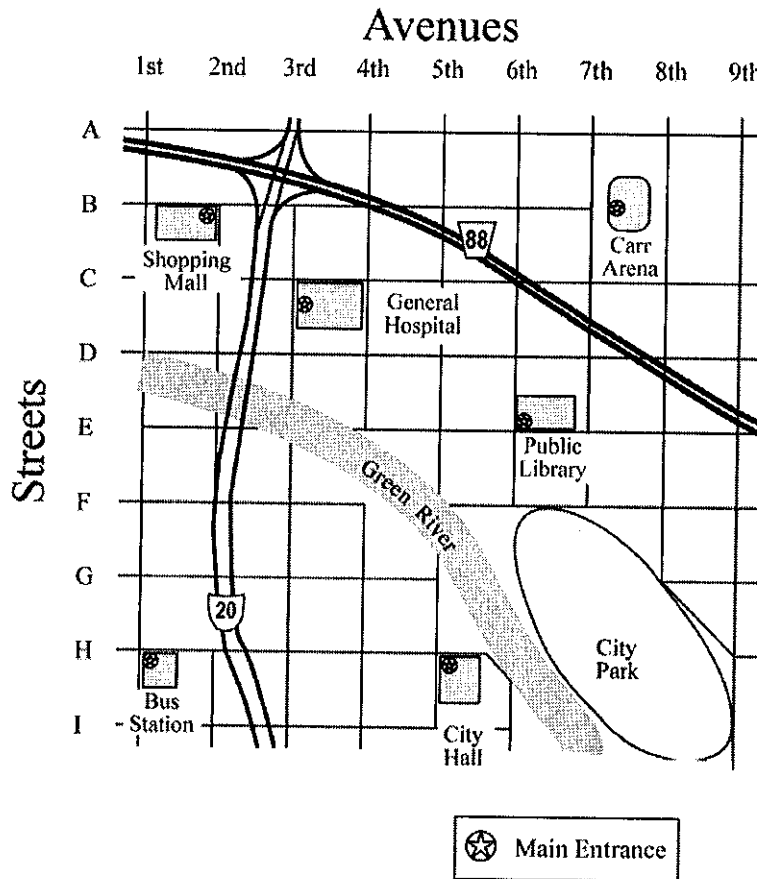
- They can find several pieces of information in graphics.
- They can notice how graphics are related to each other.
- They can sum up information shown in straightforward graphics.
- They can identify trends shown in straightforward graphics.
- They can compare information and trends shown in straightforward graphics.

1. As a clerk in the warranty department, you enter information from warranty cards into a computer. According to the warranty card shown, what type and model of appliance was purchased?
- A. Microwave #4692
  - B. Microwave #62987
  - C. Microwave #83771210
  - D. Refrigerator #4692
  - E. Refrigerator #83771210

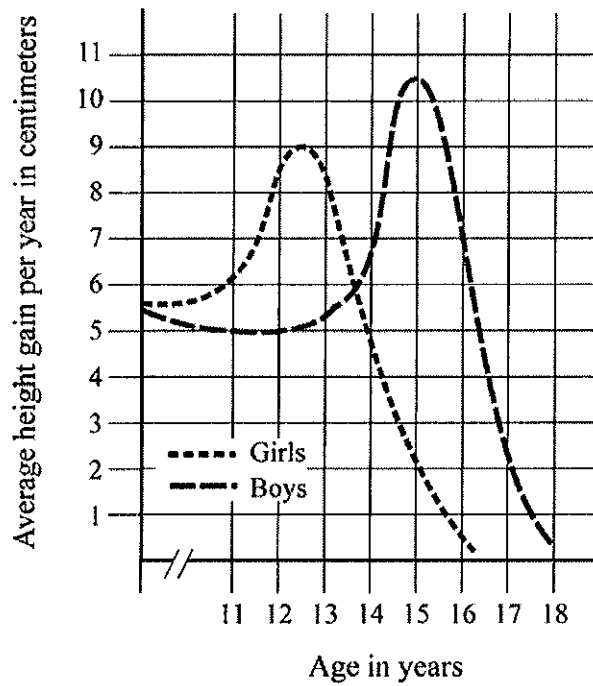
<b>Limited Warranty</b>	<b>PURCHASER'S COPY</b>	CEW 251596
(DETACH AND MAIL WITHIN 30 DAYS OF PURCHASE)		
MR <input checked="" type="checkbox"/>		
MRS <input type="checkbox"/>		
Purchaser MS <input type="checkbox"/>	<u>MADE MUISER</u>	Expires 5 Years from Purchase Date <u>01/5/19/01/5</u>
Address <u>21021 W POPP LARI</u>	Phone AC <u>61718151517161812</u>	
City <u>HARRISBORO</u>	State <u>IL</u>	Zip <u>6129917</u>
<b>CHECK APPLIANCE PURCHASED</b>		
<input type="checkbox"/> (RE) Refrigerator	<input checked="" type="checkbox"/> (MW) Microwave	<input type="checkbox"/> (DR) Dryer
<input type="checkbox"/> (FR) Freezer	<input type="checkbox"/> (AW) Automatic Washer	<input type="checkbox"/> (RG) Range
<input type="checkbox"/> (AC) Air Conditioner	<input type="checkbox"/> (DW) Dishwasher	<input type="checkbox"/> (OT) Other
Dealer <u>Honey Appliances</u>	Phone AC	Model # <u>4692</u>
Address <u>101 Main</u>	City <u>Marion</u>	Serial # <u>83771210</u>
..... DO NOT WRITE BELOW THIS LINE .....		
Date of Claim _____	Auth. No. _____	Date Paid _____
Dealer No. _____	Check No. _____	
Date Certificate Received <u>1/5/08</u>		
<b>Any variations or alterations to the terms of this certificate are null and void and without legal effect.</b>		



2. You work in the information booth at a mall. A mall customer asks where the entrance of the Public Library is located. You tell the customer that the library entrance is at the corner of:
- A. B Street and 2<sup>nd</sup> Avenue.
  - B. D Street and 6<sup>th</sup> Avenue.
  - C. E Street and 6<sup>th</sup> Avenue.
  - D. F Street and 7<sup>th</sup> Avenue.
  - E. H Street and 5<sup>th</sup> Avenue.



3. As a medical assistant, you must plot patients' growth on a growth chart. You have just measured a 14-year-old girl who has grown four centimeters in the last year. According to the chart shown, this patient's growth rate is:
- A. equal to the average rate of boys her age.
  - B. equal to the average rate of girls her age.
  - C. off the chart for growth rate.
  - D. slightly less than the average rate of girls her age.
  - E. slightly more than the average rate of girls her age.



4. You work in the classified ad department. A customer wants to place a 5-line ad for as long as possible, but he does not want to spend more than \$45.00. Based on the tables shown, you should tell the customer that he should place his ad using:
- A. Package 1 for 3 days.
  - B. Package 1 for 5 days.
  - C. Package 1 for 7 days.
  - D. Package 2 for 5 days.
  - E. Package 2 for 7 days.

<b>PACKAGE 1</b>				
<b>CLASSIFIED OPEN RATES</b>				
<b>CITY NEWS, TRIBUNE, &amp; WEEKEND PLANNER</b>				
	1 DAY	3 DAYS	5 DAYS	7 DAYS
\$line	\$6.67	\$8.17	\$8.96	\$10.14
lines				
3	20.01	24.51	26.88	30.42
4	26.68	32.68	35.84	40.56
5	33.35	40.85	44.80	50.70
6	40.20	49.02	53.76	60.84
Circulation: City News 28,285; Tribune 22,813; Weekend Planner 52,320				

<b>PACKAGE 2</b>				
<b>CLASSIFIED OPEN RATES</b>				
<b>GAZETTE, AD SHEET, MARKETPLACE, &amp; EXTRA !</b>				
	1 DAY	3 DAYS	5 DAYS	7 DAYS
\$line	\$7.71	\$9.21	\$10.00	\$11.18
lines				
3	23.13	27.63	30.00	33.54
4	30.84	36.84	40.00	44.72
5	38.55	46.05	50.00	55.90
6	46.26	55.26	60.00	67.08
Circulation: Gazette 26,092; Ad Sheet 53,101; Marketplace 12,176; Extra! 42,002				

## Locating Information Level 5

Level 5 workplace graphics are complicated. The graphics are sometimes in an unusual format. They may be detailed forms, tables, graphs, diagrams, maps, or instrument gauges. At Level 5, examinees may work with one or more graphics at a time.

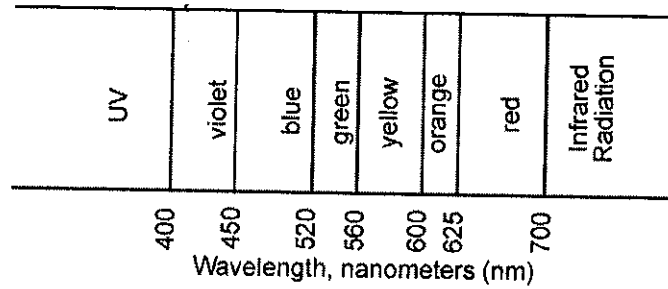
When examinees have Level 5 *Locating Information* skills:

- They can sort through distracting information.
  - They can sum up information shown in detailed graphics.
  - They can identify trends shown in detailed graphics.
  - They can compare information and trends shown in detailed graphics.
1. You are a sportswriter and are writing about the World League Mushball Tournament. You are doing an article on the two wild-card teams – the two teams with the best record who are not division leaders. According to the table shown, which two teams are the wild-card teams?
- A. Algiers and Honolulu
  - B. Berlin and Mexico City
  - C. Buenos Aires and Madrid
  - D. Mexico City and Rio de Janeiro
  - E. Rio de Janeiro and Algiers

<b>NA Division</b>					<b>E Division</b>				
<b>W</b>	<b>L</b>	<b>Pct.</b>	<b>GB</b>		<b>W</b>	<b>L</b>	<b>Pct.</b>	<b>GB</b>	
Chicago	31	24	.564	-	Madrid	32	23	.582	-
Mexico City	28	26	.519	2 1/2	Berlin	28	27	.509	4
Montreal	27	28	.491	4	Paris	27	27	.500	4 1/2
Los Angeles	25	29	.463	5 1/2	London	24	31	.436	8
New York	18	37	.327	13	Rome	22	33	.400	10
<b>SA Division</b>					<b>AS Division</b>				
<b>W</b>	<b>L</b>	<b>Pct.</b>	<b>GB</b>		<b>W</b>	<b>L</b>	<b>Pct.</b>	<b>GB</b>	
Buenos Aires	34	21	.618	-	Moscow	29	26	.527	-
Rio de Janeiro	31	23	.574	2 1/2	Seoul	27	28	.491	2
Lima	27	28	.491	7	Bombay	27	28	.491	2
Caracas	26	29	.473	8	Hong Kong	26	29	.473	3
Bogota	25	29	.463	8 1/2	Singapore	24	30	.444	4 1/2
<b>AF Division</b>					<b>AI Division</b>				
<b>W</b>	<b>L</b>	<b>Pct.</b>	<b>GB</b>		<b>W</b>	<b>L</b>	<b>Pct.</b>	<b>GB</b>	
Cairo	31	24	.564	-	Melbourne	30	24	.556	-
Algiers	30	24	.556	1/2	Honolulu	29	26	.527	1 1/2
Cape Town	28	27	.509	3	Sidney	26	29	.473	4 1/2
Johannesburg	22	33	.400	9	Tokyo	24	31	.436	6 1/2
					Manila	23	32	.418	7 1/2

W - Wins   L - Losses   Pct. - Percent of games won   GB - Games Back

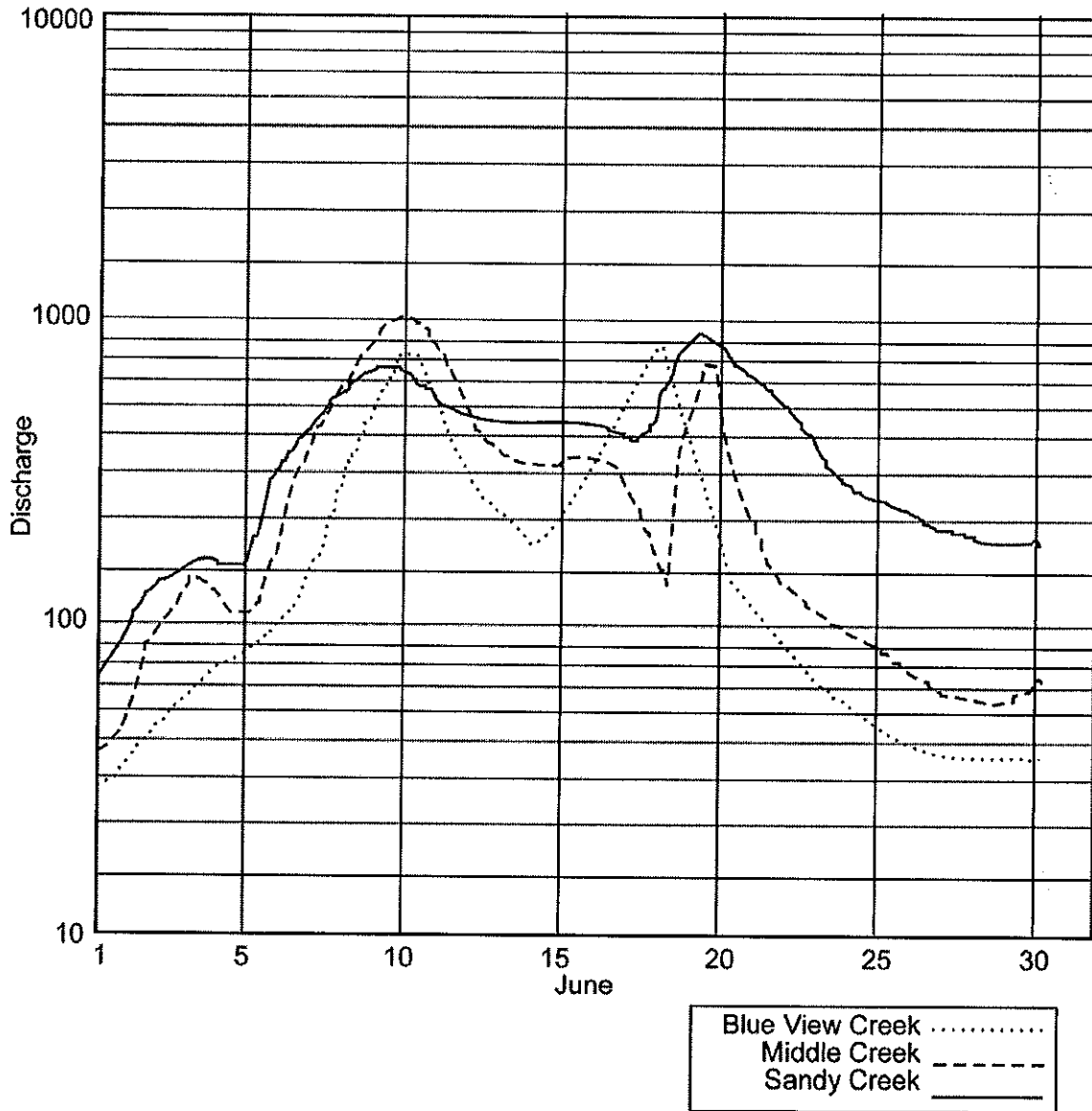
2. You are a laboratory supervisor and are checking the work of a new tech assistant. Which test has an incorrect color/type interpretation?
- A. 1
  - B. 2
  - C. 3
  - D. 4
  - E. 5




Electromagnetic Wavelength Tests  
 Tech: *S. Anders* Date: 06/02

Test	Trial A	Trial B	Color/Type
1	460 nm	465 nm	blue
2	525	535	green
3	225	225	UV
4	610	615	red
5	510 ↓	510 ↓	blue

3. As a county watershed control assistant, you must examine monthly discharge rates for creeks, rivers, and streams in your county. For the date of June 19<sup>th</sup>, which creek had the highest discharge and what was that discharge?
- A. Blue View Creek, 185
  - B. Middle Creek, 800
  - C. Middle Creek, 1000
  - D. Sandy Creek, 195
  - E. Sandy Creek, 950



4. As a wellness center technician, you perform Bone Mineral Density (BMD) screenings in order to determine a client's risk for osteoporotic fracture. According to the form and graph shown, this client should be advised that she is at:
- A. low risk and the results should be reported at her next checkup.
  - B. low risk and she should make an appointment with her doctor later this month.
  - C. moderate risk and the results should be reported at her next checkup.
  - D. moderate risk and she should make an appointment with her doctor later this month.
  - E. high risk and she should see the doctor immediately.



**Nyoung Wellness Center**  
 1201 Iroquois Lane  
 Weston, PA 16364  
 814-288-8889

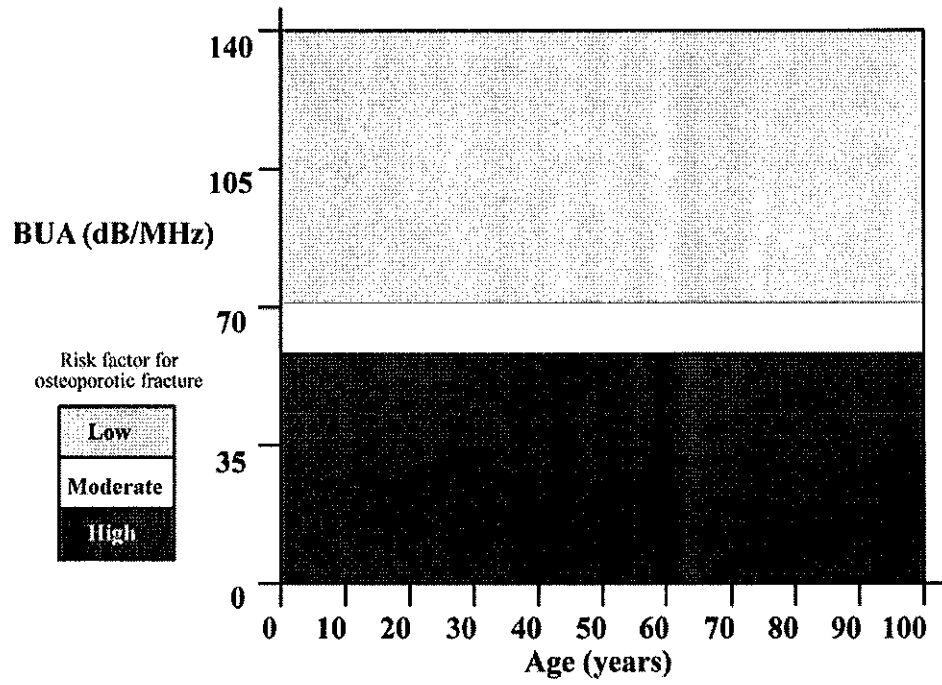
BMD TEST TYPE  
 DXA  pDXA  SXA  QUS  QCT  pQCT  RA  DPA  SPA

Patient Data			
Scan Date		ID	
11/15		MF045	
Lastname		Firstname	Age
Rashid		Japhia	55
Last Appt	Hgt	Wgt	Sex
08/06	5'8"	125	F
BUA	%EXP	Zu	Tu
86	118	.80	-0.22

Low Risk: Results should be reported to doctor at next regular checkup.  
 Moderate Risk: Patient should make an appointment to see doctor this month.  
 High Risk: Patient should see doctor immediately.

Normal bone: Tu > -1  
 Osteopenia: Tu < -1 > -2.5  
 Osteoporosis: Tu < -2.5

### Normative BUA





## Locating Information Level 6

Level 6 workplace graphics are complicated. They contain large amounts of information and may have challenging formats. Sometimes they involve technical terms or symbols. They may be very detailed graphs, charts, tables, forms, maps, or diagrams. At Level 6, examinees may work with one or more graphics at a time.

When examinees have Level 6 *Locating Information* skills:

- They can analyze data in one complicated graphic or several related graphics.
- They can apply the information to specific situations.
- They can use the information to make decisions.
- They can use the information to draw conclusions.

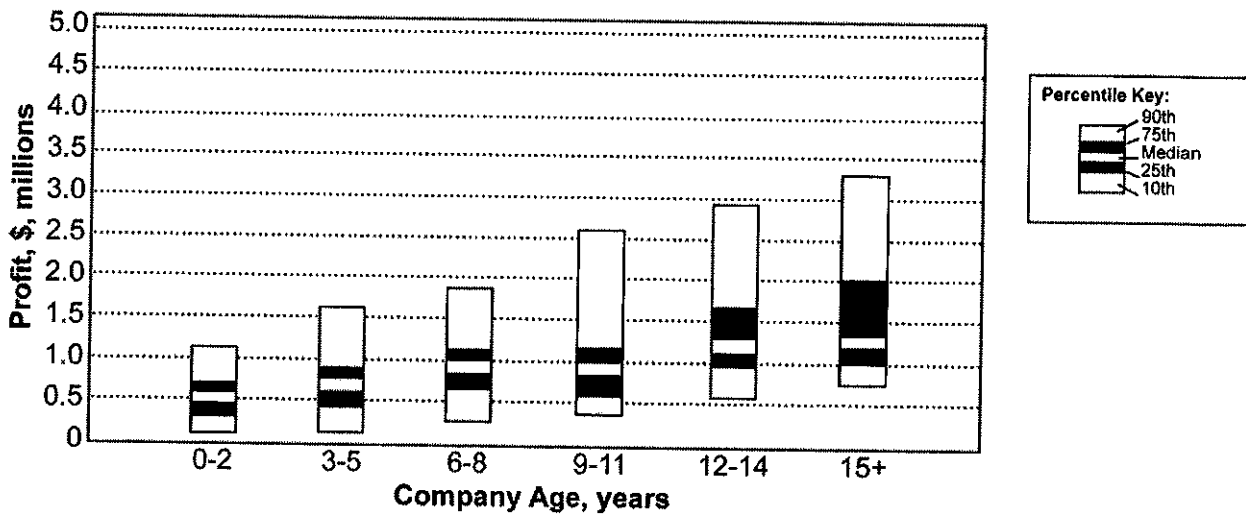
1. You schedule appointments for Dr. Wahl following the guidelines shown. It is Monday morning, and Dr. Wahl finds out that the afternoon meeting she was scheduled to attend has been canceled, so you can schedule call-in patients for this afternoon. After this afternoon, Dr. Wahl's next available appointment is in three weeks. Based on the charts shown, the first two patients you should try to schedule for this afternoon are:
  - A. Allan and Ambili.
  - B. Ambili and Tally.
  - C. Ambili and Wessel.
  - D. Floyd and LaPlante.
  - E. Kapy and Lopez.
  
2. You have just scheduled Tito Brooks for Friday afternoon, and he calls back to ask how long his appointment will take. After looking at the information shown, you know that he should be in the office for:
  - A. 30 minutes.
  - B. 30 minutes + 15 minutes.
  - C. 30 minutes + 15 minutes + 15 minutes.
  - D. 1 hour + 30 minutes.
  - E. all of Friday afternoon.

**Patient Call-In List  
(Nonemergency)**

Patient Name	Work Needed	Days & Times Available
Trixie Wessel Joy Ambili Laryssa Allan Benson Tally Thomas Dessaint Tracy Atkinson Francine Costello Nancy Hickok Jason Long Allison LaPlante Andrea Huntoon Louise Kapy Roberto Lopez Tito Brooks Jenny Floyd	lower partial denture #30 crown MODB #5 filling bridge #3-5 DL #8 filling MODBL #3 filling #17 impaction #8, 9 laminates upper partial denture #11 XT 28, 29 DO inlays root canal #20 #8 root canal #18 MODL filling #13 XT	mornings only Mon, Wed anytime Mon, Tues, Fri Wed, Fri Wed afternoons, Sat Mon, Tues, Thurs afternoon anytime Mon, Wed, Fri afternoons before 10 1st morning appt. Tues, Fri after 3:30 anytime

Procedures in Order of Office Priority	First Appt. Time	Schedule Follow-up in:*	Follow-up Appt. Time	Scheduling Reminders
Crown or Bridge ♦	1+30	3 weeks	45	Always schedule appointments in order of office priority first, and patient call-in order second.  Each tooth surface is shown on the call-in sheet by a capital letter: MOD represents 3 surfaces. (Add 15 minutes to appointment time for more than 3 surfaces.)  For lower molars (#17, 18, 19, 30, 31, 32), schedule patient to arrive 15 minutes early.
Dentures	45	1 week	30	
Partial Dentures	30	2 weeks	30	
Inlays ♦	1	2 weeks	30	
Endodontics (root canals, etc) ♦♦	1	within 4 days	30	
Laminate	1	2 weeks	45	
Restorations (fillings, etc.) ♦	30	--	--	
Bleaching	30	variable	30	
Extractions (XT) ♦♦	30	--	--	
Impactions ♦♦	45	--	--	
* This is either the time a patient needs to heal or the lab time needed before the doctor can finish the work. Follow this schedule exactly.  ♦ Emergency coverage by a staff doctor is advisable on the night of the appointment.  ♦♦ Emergency coverage by a staff doctor is very important on the night of the appointment.				

3. You are a finance research assistant with a company that purchases smaller companies. You use the chart and table shown to compare prospective buys with current companies. Your company only purchases companies in the 90<sup>th</sup> percentile. Which company fits that prerequisite for purchase?
- JMO Clothiers
  - Kenai Kampgoods
  - Northmann Cookies
  - Pierre's
  - Wolfware Software
4. You work for a business that purchases smaller companies. You use the information shown to compare prospective buys with current companies. Your supervisor wants you to look at Office Bytes, a 6-year-old computer company that earned a \$723,000 profit last year. Using the chart and information shown, how does Office Bytes compare to Wolfware Software?
- Both Office Bytes and Wolfware Software are in the Median percentile.
  - Both Office Bytes and Wolfware Software are in the 75<sup>th</sup> percentile.
  - Office Bytes is in the 25<sup>th</sup> percentile, and Wolfware Software is in the Median percentile.
  - Office Bytes is in the Median percentile, and Wolfware Software is in the 75<sup>th</sup> percentile.
  - Office Bytes is in the 75<sup>th</sup> percentile, and Wolfware Software is in the Median percentile.



**Prospective Purchases:**

Company	Age	CEO	Headquarters	Last Year Profit
JMO Clothiers	8	John Smith	Louisville, KY	\$1,021,000
Kenai Kampgoods	10	Rachel Stonebrook	Juneau, AK	\$721,000
Northmann Cookies	16	Kay Northmann	Mason City, IA	\$1,315,000
Pierre's	5	Pierre LePez	San Diego, CA	\$1,016,000
Wolfware Software	1	Raul Gomez	Denver, CO	\$514,000