1. Passengers on many commercial flights may make calls from a telephone provided by the airline. On a certain airline a call costs \$3 to connect plus \$2 for each minute. Which equation best represents c, the total cost for a call that lasts m minutes? **F** $m = 3 + 2c$ **G** $c = 3 + 2m$ **H** $m = 2 + 3c$ **J** $c = 2 + 3m$	What is important? It costs \$_____ just to use the phone. It costs \$_____ for each minute they talk. c = total costs. m = minutes, What is the fixed amount? _____ Will this be the same no matter how long they talk?_____ Then it is the constant. What is the cost per minute?_____ If they talk for 5 minutes, what is the cost? _____ Then add the cost for using the phone and write an equation; C = _____
2. Shannon has spent \$850 on gasoline and repairs for her car in the last 6 months. Of this total, she spent \$300 on repairs. The gasoline she purchased cost \$1.29 per gallon. Which of the following can be used to determine how many gallons of gas, g, Shannon has bought within the last 6 months? **A** $1.29g - 300 = 850$ **B** $1.29g + 300 = 850$ **C** $1.29 - 300g = 850$ **D** $1.29 + 300g = 850$	Information: She spent _____ on repairs She spent how much for each gallon of gas?____ What was the total of gas plus repairs _____ Do you add, subtract, multiply or divide the repairs and the gas to get the total she spent?____ Okay, which 2 answers can we eliminate?_____ Now, is it gas price per gallon or repair cost per gallon? _____ Write the equation: _____
3. Auto-Check Motors charged Mr. Jones \$84.00 for an automotive part plus \$68.00 per hour that a mechanic worked to install the part. The total charge was \$353.00. For about how long did the mechanic work to install the part on Mr. Jones's car? **F** $6\,h$ **G** $5\,h$ **H** $4\,h$ **J** $3\,h$	First, you have to write an equation. What is the constant?_____ "h" is hour. What do you multiply times "h"? _____ We are looking for the total cost so the equation should look something like this: _____ = _____h + _____ You fill in the blanks and solve the equation

4.

A weather balloon is launched from a height of 475 feet above sea level. If the balloon rises at a constant rate of 85 feet per minute, which equation could be used to determine t, the time in minutes it will take the balloon to reach a height of 9245 feet above sea level?

A $9245 = 85 + 475t$

B $9245 = 85(t + 475)$

C $9245 = 475 + 85t$

D $9245 = (475 + 85)t$

How high was the balloon when it was launched?_____
Will this number ever change?_____
It is the initial amount or constant.
(Tricky, the writer used the word "constant rate" to confuse you.)
How fast does the balloon rise?_____
"per" means multiply.
Rate (speed it rises) must be multiplied by time (t) _____

The initial height (475) plus the rate of speed(85) times the number of minutes (t) = 9245, the final height.
_____

5.

The temperature in degrees Celsius, C, is $\dfrac{5}{9}$ of the difference between the temperature in degrees Fahrenheit, F, and the constant 32. Which equation best represents this relationship?

A $C = \dfrac{5}{9} - (F + 32)$

B $C = \dfrac{5}{9}(F + 32)$

C $C = \dfrac{5}{9}(F - 32)$

D $C = \dfrac{5}{9} - F + 32$

What operation is "of"? _____

So we have 5/9 of something. Which answer has 5/9 of something?_____ and _____.

Eliminate the others._____

What arithmetic operation is difference"? _____

Write the difference between Fahrenheit (F) and the constant 32. _____

Which answer left has this?__

6.

The cost of renting a DVD at a certain store is described by the function

$$f(x) = 4x + 3$$

in which $f(x)$ is the cost and x is the time in days. If Lupe has $12 to spend, what is the maximum number of days that she can rent a single DVD if tax is not considered?

F 1

G 2

H 3

J 7

Show your work:

7.	
To which of the following situations can the function $y = 5x + 10$ best be applied? **A** The number of miles a person walks if he walks for 5 hours at the rate of 10 miles per hour **B** The total weight on a scale if 5 pounds is placed there initially and a series of 10-pound weights are added to it **C** The total wages earned by a waiter who is paid $5 per hour and earns $10 in tips **D** The combined length of 5 boards, each 10 feet longer than the width of a doorway	Write Equations for each answer. Example D. Doorway = x 10 feet longer than doorway (10 +x) 5 of them 5(10+x) Y= 5(10+x) Wrong!!!!!! A. Equation: _____ B. Equation: _____ C. Equation: _____ So, which one is correct?_____
8.	
The function $g(x) = 1.25 + 0.70(x - 1)$ represents the charge for parking in the mall garage for x number of hours. Which statement best represents the formula for this charge? **A** The charge consists of a set fee of $1.25 plus $0.70 for every hour parked. **B** The charge consists of a flat rate of $0.70 for every hour parked. **C** The charge consists of $1.25 for the first hour parked and $0.70 for each additional hour. **D** The charge consists of $1.25 for every hour parked plus a set fee of $0.70.	Write each answer as an equation Example A. Charge g(x) = set fee (1.25) plus 70 cents for each hour (x). G(x) = 1.25 + .70x Wrong!!! Answer B. _____ Answer C. _____ Answer D. _____ What does the - 1 mean?

9. The number of hours Abe practices golf each week, g, is 2 more than the number of hours he runs, r. Which equation represents the number of hours he runs each week? **F** $r = g - 2$ **G** $g = r - 2$ **H** $g = 2r$ **J** $r = g + 2$	Which does he do longer, golf or run? _____ How much longer does he golf than run? _____ r = run g = golf This is just a linear equation with no numbers. Try this with numbers. Pick a number of hours he runs. (not 2) _____ Add 2 hours to this. That is how much he practices golf. _____ Plug these numbers in each equation and see which is true.
10. Adam's age is 4 years less than twice Blanca's age. If Adam is 16 years old, which equation can be used to determine Blanca's age? **F** $2(x - 4) = 16$ **G** $2x - 4 = 16$ **H** $4 - 2x = 16$ **J** $2(4 - x) = 16$	Adam is how old?_____ Adam is also 4 less than twice Bianca's age. So _____ = 4 less than twice Bianca's age Write the above in an equation. _____ _____ What is the difference between "less' and "less than"_____
11. The gas tank in Karen's car holds 15 gallons. Her car gets between 25 and 30 miles to the gallon. If Karen fills up the gas tank and then drives until she runs out of gas, what is the least number of miles she can drive? **A** 300 mi **B** 375 mi **C** 450 mi **D** 405 mi	

12. Manuel has 5 more CDs than Pedro has. Bob has twice as many CDs as Manuel has. Altogether the boys have 63 CDs. Which equation can be used to find how many CDs each person has? **A** $5x + 2x + x = 63$ **B** $x + (x + 5) + 2x = 63$ **C** $x + (x + 5) + 2(x + 5) = 63$ **D** $x + 2(5x) + 5x = 63$	They have 63 CDS So, Pedro + Manual + Bob =63 Start with Pedro. He has x CDs. Manual has five more than Pedro. How many does Manual have?_____ Look for answers with that in it and eliminate the rest. _____ Bob has twice as many as Manual. Write this._____ (Manuel needs to be in ( )) Why?_____ Which answer has all the expressions?_____
13. An ice-cream store projects that the profit, p, it earns on a total sales volume of s dollars is given by the formula $p = 0.25(s - 3000)$. If sales for the next month are projected to be between \$5000 and \$7000, what range best represents the total profit the store can expect for that month? **A** $500 \le p \le 1000$ **B** $5000 \le p \le 7000$ **C** $0 \le p \le 2000$ **D** $2000 \le p \le 4000$	P=_____(word) S = _____(word) P = _____(equation) You must solve 2 problems to get the range of profit S1 is\$5000 S2 is _____ Solve the equation for S1 _____Solve the equation for S2 _____ Why do you think they must subtract 3000 from the sales to figure profit? _____
14. A candy company sells chocolate-covered cherries in a box. The empty box weighs 4.2 ounces. Each piece of candy weighs at least 1.8 ounces. Which inequality best describes the total weight in ounces, w, of a box of chocolate-covered cherries in terms of c, the number of candies in the box? **A** $w \ge 1.8c + 4.2$ **B** $w \ge 1.8c - 4.2$ **C** $w \ge 4.2c + 1.8$ **D** $w \ge 4.2c - 1.8$	Facts: How much does the box weigh?_____ How much does each candy weigh?_____ C = cherries w = total weight What can you eliminate based on this? _____ and _____ Do you add the weight of the cherries to the weight of the box, or do you subtract it? _____ Answer_____ What did the $\ge$ sign mean in this problem?_____

15.

The Alejo family budgeted $2000 for their vacation. Their budget consisted of $800 for travel costs and $75 per day for other expenses. Which inequality represents the number of days, x, the family could have stayed on vacation?

A $800 + 75x \leq 2000$

B $800x + 75 \geq 2000$

C $800x - 75 \geq 2000$

D $800 - 75x \leq 2000$

If the most they can spend is $2000, then their expenses must be equal to or <u>more</u> or <u>less</u> than $2000?_____ What is the proper inequality sign? $\geq$ or $\leq$ So, we can eliminate answers __ and __.
Now, if they have cost of 75 per day, we write this as _____ That eliminates what answer____.

16.

At Northwest Electronics audiotapes cost $5.00 per package, and videotapes cost $10.00 per package. Which inequality best describes the number of packages of audiotapes, a, and the number of packages of videotapes, v, that can be purchased for $45.00 or less?

F $5a + 10v < 45$

G $10a + 5v \leq 45$

H $5a + 10v \leq 45$

J $10a + 5v < 45$

17.

The school drama club plans to attend a Shakespeare festival in 6 weeks. The total cost per person is $185.75. The club has $296 in its account and will divide the money equally among the 8 members who attend the festival. Troy is planning to attend the festival and has already saved $55. How much more money does Troy need in order to cover his cost to attend the festival?

A $93.75

B $110.25

C $148.75

D   Not here