Algebra 1 Day 6 Blizzard Bag

Complete all problems, showing your work.

1) Simplify the expression: $(5t)(-30t^2)$.

2) Mrs. Plummer teaches third grade. At recess one day, Mrs. Plummer notices that her six tallest students are the only ones wearing hats. Which statement would be an example of Mrs. Plummer confusing correlation with causation?

a) The taller students are wearing hats today.
b) The shorter students are not wearing hats today.
c) Being tall increases the chances of wearing a hat.
d) Some students wore hats today and some did not.

3) Angela was supposed to graph the equation $y = \frac{3}{5}x + 12$, but she misread the problem and graphed $y = \frac{3}{5}x + 2$. How will her graph compare to the **correct** graph?

a) It will be flatter.
b) It will be steeper.
c) It will be 10 units lower.
d) It will go down instead of up.

4) What are the next two terms of the pattern shown below?
55, 42, 31, 22, 15, ___, ____

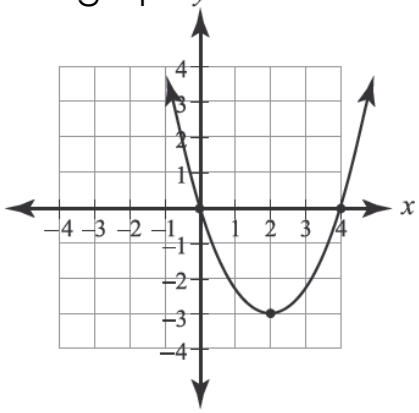
5) Beau charges a $10 base fee plus $5 per hour to mow yards. Jaime charges a $12 base fee plus $4.50 per hour. At what time will Beau and Jaime be charging the same total fee?

6) Billy has 20 pennies in his pocket. Billy does not realize that there is a hole in his pocket and 2 pennies fall out for every block he walks. A graph is made showing the number of pennies, y, that are left after Billy has walked x blocks. What is the slope of the graph?

a) $-\frac{1}{10}$ b) -2 c) -10 d) -20

7) Which graph has a minimum and vertex (2, -3) and zeros of (0, 0) and (4, 0)?

a)



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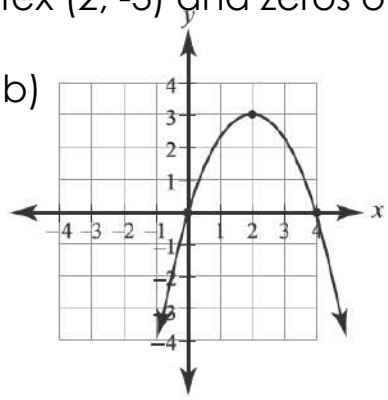

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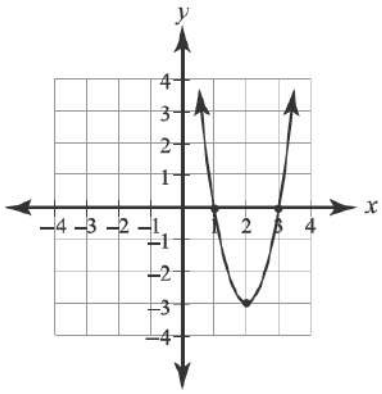

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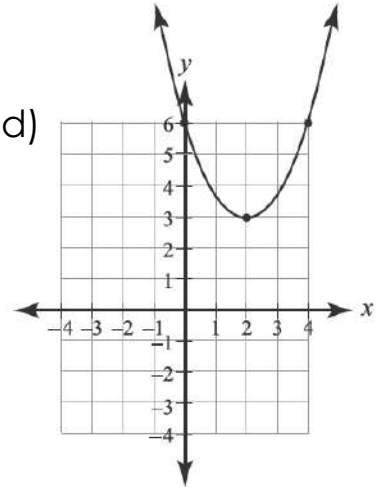


8) It took Frances 10 minutes to read the first 14 pages of her English assignment. If she continues to read at the same rate, how long will it take her to read the remaining 22 pages, to the nearest minute?

9) Given the function f(x) = 2 – 4x, what is f(-2)?

10) Brad has $80 and is paid $20 for every lawn he mows. His friend Trevor has $200 but is not earning or losing any money. Which inequality can be solved for the number of lawns, x, that Brad must mow in order to have more money than Trevor?

a) $80x + 20 < 200$

b) $80x + 20 > 200$

c) $80 + 20x < 200$

d) $80 + 20x > 200$

11) If the equations y = 3x + 6 and y = 3x – 6 were graphed on the same coordinate grid, how would the two lines relate to one another?

a) They would be parallel.
b) They would be vertical.
c) They would be intersecting.
d) They would be perpendicular.

12) Which table relates to a linear function?

a)

x	y
1	–2
2	–4
3	–6
4	–8

b)

x	y
1	–2
2	0
3	4
4	12

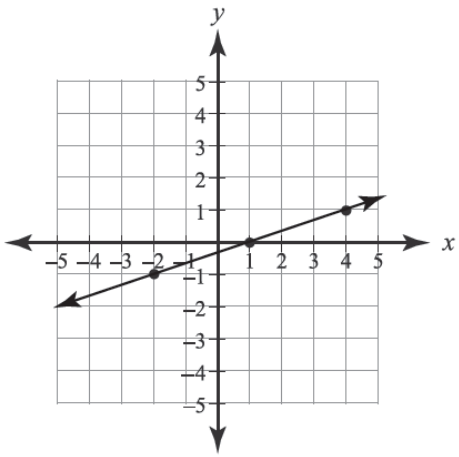
c)

x	y
1	2
2	3
3	4
4	7

d)

x	y
1	3
2	6
3	8
4	12

13) What is the slope of the line given in the graph on the right?



14) Jessica has a bag that contains 4 red marbles, 5 blue marbles, and 6 green marbles. If Jessica picks a marble at random, what is the probability that is is green?

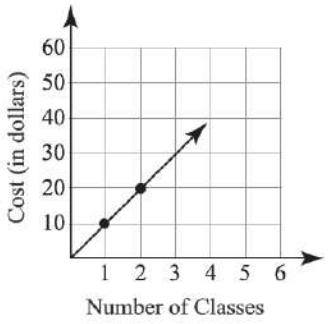
15) The senior class is ordering T-shirts. The printing company charges a $45 design fee plus $7.50 per shirt. Write an equation to represent the total cost, C, for ordering s shirts?

16) A survey is taken to find the attitude of people toward a tax increase that would pay for street repairs. Which should be included as a question on the survey?

a) How big of a tax increase should we pass to pay for street repairs?
b) Do you support a tax increase that will provide money for street repairs?
c) Are you willing to increase taxes to pay for repairs on our terribly run down streets?
d) Considering how high taxes already are, would you put up with another tax increase to pay for street repairs?

17) It costs $25 to attend a dance school plus $10 for each different type of dance class taken. Which graph represents the cost of taking classes at the school?

a)



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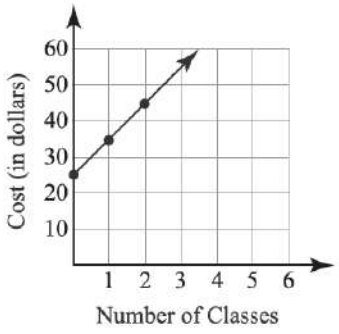

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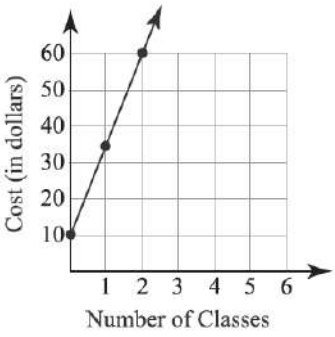

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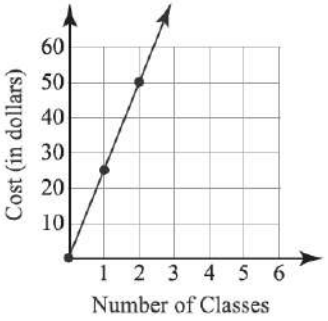

18) What values of d are solutions of $|3d| - 6 = 24$

a) $d = 2, d = -2$ b) $d = 6, d = -6$

c) $d = 10, d = -10$ d) $d = 14, d = -14$

19) Bob budgets enough money to build a rectangular deck that is 450 square feet. He wants the deck's length to be twice its width. What will be the dimensions of the deck, rounded to the nearest foot?

20) What is the simplest form of the expression $-2x(x^2 + 2x)$?

21) What is the value of the expression $\frac{4x^2 + 2x}{x - 3}$ when $x = 3$?