Level 2: Expressions and Equations Pretest

Question 1:

An electrician charges a $50 fee plus $70 per hour, h, worked. This expression can be used to determine the cost, in dollars, of having the electrician work for h hours.

$50 + 70h$

Which expression can also be used to determine the cost of having the electrician work for h hours?

a. $10(5 + 7h)$

b. $10(40 + 60h)$

c. $10(5 + 70h)$

d. $10(40 + 70h)$

Question 2:

An advertisement in the newspaper costs a flat fee and a fee per word. This expression can be used to determine the total cost, in dollars, of an advertisement with w words.

$5(20 + w)$

Which expression can also be used to determine the total cost of an advertisement with w words?

a. $25 + 5w$

b. $25 + w$

c. $100 + 5w$

d. $100 + w$

Question 3:

Look at this inequality.

$10 \leq x + 5$

Which numbers from the set {1, 2, 3, 4, 5, 6} make the inequality true?

a. 1

b. 2

c. 3

d. 4

e. 5

f. 6

Continue

Question 4:

Jane planted a 4-foot-tall tree. The tree grows 1 foot per year.

Which equation shows the relationship between the number of years, y, since Jane planted the tree, and the height, h, of the tree in feet?

a. $h + 4 = y$

b. $y + 4 = h$

c. $4h + 1 = y$

d. $4y + 1 = h$

Question 5:

Rosa waters her plants. She uses the equation below to determine the number of teaspoons of plant food, p , to put into w quarts of water.

$\frac{1}{4}w = p$

Which table represents this relation?

a.

Number of Quarts of Water (w)	Number of Teaspoons of Plant Food (p)
4	1
8	2
12	3

b.

Number of [illegible] of [illegible] (w)	Number of Teaspoons of Plant Food (p)
4	8
8	12
12	16

c.

Number of Quarts of Water (w)	Number of Teaspoons of Plant Food (p)
4	0
8	4
12	8

d.

Number of Quarts of Water (w)	Number of Teaspoons of Plant Food (p)
4	16
8	32
12	48

Continue

Question 6:

Brandon owes his brother $100. He will repay his brother $5 each week.

Which expression gives the amount in dollars Brandon will still owe his brother after n weeks?

a. $5 - 100n$

b. $100 - 5n$

c. $5n - 100$

d. $100n - 5$

Question 7:

Howard is paid $8.50 for each hour he works. Last week, he earned $89.25. The equation below can be used to determine h, the number of hours Howard worked last week.

$89.25 = 8.5h$

What number of hours did Howard work last week?

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What number of hours did Howard work last week?

Continue

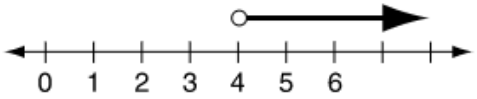
Question 9:

Ms. Kelsey is planning to start a book club at her school. To start the club, at least 4 students must participate.

Which number line represents the number of students who must participate for Ms. Kelsey to start the club?

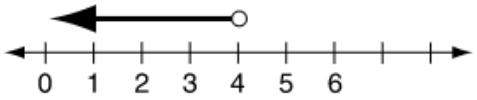
a.

b.



c.

d.



Question 10:

Alex builds a shed for his tractor.

- The shed is x feet wide.
- The shed is 3 feet longer than the width.

Which expression represents the area, in square feet, of the shed?

a. $2x + 3$

b. $x^2 + 3$

c. $2x + 6$

d. $x^2 + 3x$

Continue

Question 11:

Victoria babysat for h hours for $8 per hour. Then she bought 3 hair clips for $5 each and a brush for $12.

Which expression represents the amount of money Victoria has left?

a. $8h - 3(5) - 12$

b. $8h - 3(5 + 12)$

c. $8h - 3(5) + 12$

d. $8h - 3(5 - 12)$

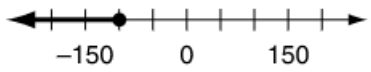
Question 12:

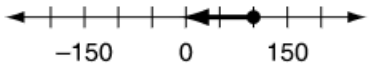
A town clerk wrote this inequality to represent the budget, b, for the library.

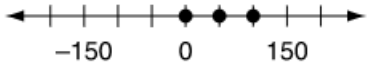
$b \leq 1{,}500$

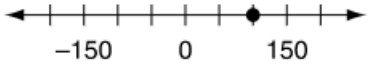
The town spent $1,100 on books and $300 on magazines.

Which number line represents the amount of money that could still be spent from the library budget?

a.


b.


c.


d.


Question 13:

Kendra set a goal to walk 10 miles in one week. She walked 2 miles on Monday and 3 miles on Tuesday.

Which equation represents the number of miles, w, Kendra still needs to walk?

a. $2 + w = 10 + 3$

b. $3 + w = 10 + 2$

c. $10 + 2 + 3 = w$

d. $2 + 3 + w = 10$

Continue ➡

Question 14:

James is studying different kinds of weather.

- Raindrops are larger than 0.02 inch in diameter.
- Small hailstones are less than $\frac{1}{4}$ inch in diameter.

Which set of inequalities best represents the size, in inches, of raindrops, r, and hailstones, h?

a. $r > 0.02$
$h < \frac{1}{4}$

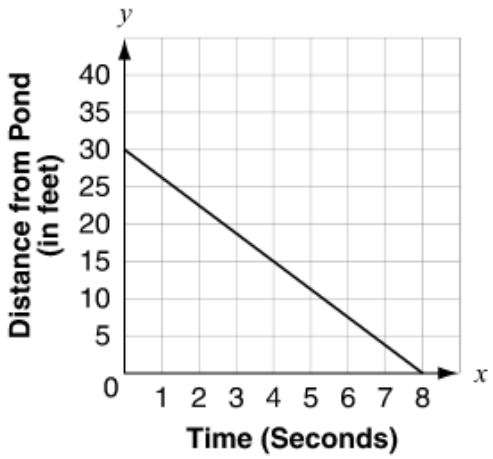
b. $r < 0.02$
$h > \frac{1}{4}$

c. $r < 0.02$
$h < \frac{1}{4}$

d. $r > 0.02$
$h > \frac{1}{4}$

Question 15:

This graph shows the distance a bear is from a pond as he walks toward it.



What is the dependent variable in this situation?

a. the distance, in feet, the bear is from the pond

b. the speed, in feet per second, the bear is walking

c. the time, in seconds, since the bear started walking

d. the time, in seconds, it takes the bear to reach the pond

Stop