

A Final Collection of Problems

- 1) Which expression makes the equation true for all values of x ?

$$16x - 16 = 4(\underline{\quad ? \quad})$$

- A $4x - 4$
- B $4x - 16$
- C $2x - 2$
- D $12x - 12$

- 2) In a scale drawing of an apartment, 1 centimeter represents $2\frac{3}{4}$ feet. If the length of the kitchen is $4\frac{1}{2}$ cm on the scale drawing, what is the actual length, in feet, of the kitchen?

- A $6\frac{2}{3}$
- B $7\frac{1}{4}$
- C $8\frac{3}{8}$
- D $12\frac{3}{8}$

- 3) What is the value of the numerical expression $\frac{5}{8} - \frac{5}{12}\left(3 - \frac{1}{4}\right) + \frac{2}{3}$?

- A $-26\frac{5}{24}$
- B $\frac{7}{48}$
- C $1\frac{1}{24}$
- D $1\frac{23}{96}$

4)

Which situation could be solved using the equation $-4 + 4 = 0$?

- A Terrance has \$4 in his lunch account. He deposits \$4 in his account when he gets to school in the morning.
- B Juanita recorded a temperature of -4°F at 8:00 A.M. An hour later, the temperature increased 4° .
- C Griffin places 4 counters, each representing -1 , in a group. He creates a total of 4 identical groups.
- D Melinda walks 4 blocks towards her home and stops to get a snack. She walks the remaining 4 blocks home.

5)

The table below shows how much flour Carlos needs to bake various numbers of scones.

Scones	Cups of Flour
12	3
20	5
28	7

How many cups of flour does Carlos need for each scone?

- A $\frac{1}{4}$
- B $\frac{3}{4}$
- C 3
- D 4

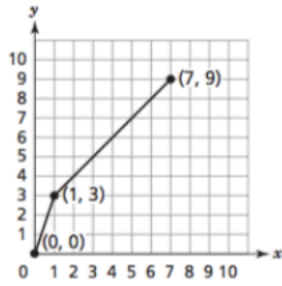
6)

A bicycle normally sells for \$239.99. It is now on sale for 25% off. As an employee, Baron is able to save an extra 10% off the sale price. How much, to the *nearest dollar*, would Baron need to pay for the bicycle?

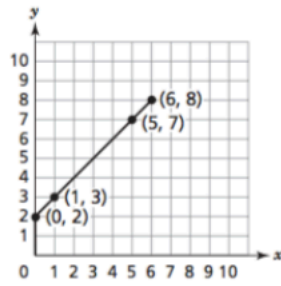
- A \$156
- B \$162
- C \$174
- D \$205

Which graph shows a proportional relationship between x and y ?

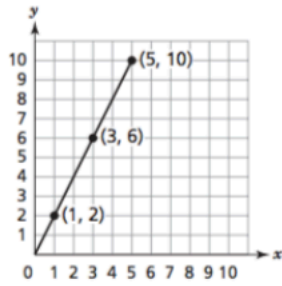
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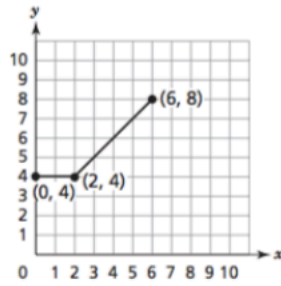
A



C



B



D

8)

An item with an original price of p dollars is on sale at a 25% discount. Which expression is **not** equivalent to the price of the item with the discount?

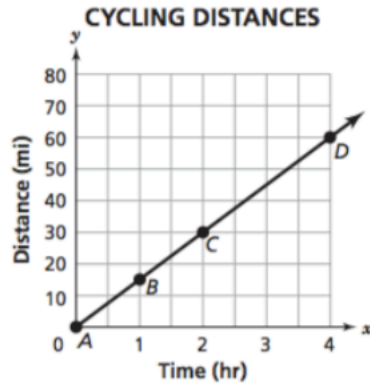
- A $(1.0p - 0.25p)$
- B $(1.0 - 0.25)p$
- C $0.75p$
- D $0.25p$

9)

Sarah uses $\frac{3}{4}$ pound of blueberries to make $\frac{2}{3}$ cup of jam. How many pounds of blueberries does she need to make one cup of jam?

- A $\frac{1}{12}$
- B $\frac{1}{2}$
- C $1\frac{1}{8}$
- D $1\frac{5}{12}$

- 10) The graph shows the relationship between the amount of time Sheila rides her bicycle and the distance she travels.



Which point on the graph represents Sheila's average speed in miles per hour?

- A Point A
- B Point B
- C Point C
- D Point D

- 11) Which expression is equivalent to $2.8k - 8.4$?

- A $0.07(4k - 12)$
- B $0.7(4k - 12)$
- C $5.6k$
- D $-5.6k$

- 12) Find the value of the expression.

$$\frac{5}{(-1.5 + 9.5)} + \frac{0.4(7 + 11)}{-0.2}$$

- 13)** A proportional graph has the points (2, 6) (3, 9) and (4, 12).
- A) What is the constant of proportionality? _____
 - B) What point represents the unit rate? _____
 - C) If the x value on the point of the graph is 6, then what is the y value? _____
 - D) Write an equation to relate x and y: _____

- 14)** Super Store sold 12 pairs of sneakers for \$480 and 6 pairs of socks for \$36. Due to financial problems, Super Store now sells 10 pair of sneakers for \$600 and a pair of socks for \$6.25. What is the percent of increase of each pair of sneakers and each pair of socks to the nearest whole number?