

WINTER BRAIN BUILDER MATH BOOT CAMP

7TH GRADE

7.NS.1.1, 7.NS.1.2, 7.RP.1.1, 7.RP.1.2

Due: January 8th



1.

If $p + q$ has a value that is exactly $\frac{1}{3}$ less than p , what is the value of q ?

- A. $-\frac{1}{3}$
- B. $\frac{2}{5}$
- C. $\frac{1}{3}$
- D. $-\frac{2}{5}$

2.

What is the sum of k and the opposite of k ?

- A. $2k$
- B. $k + 1$
- C. 0
- D. -1

3.

If $p + q$ has a value of $\frac{12}{5}$, and p has a value of $\frac{4}{5}$, what is the value of q ?

- A. $\frac{5}{8}$
- B. $\frac{8}{5}$
- C. $\frac{1}{3}$
- D. $\frac{3}{2}$

4.

Solve for x .

$$x = (-2)(6)(-4)$$

- A. $x = 36$
- B. $x = 0$
- C. $x = 48$
- D. $x = -48$

5.

Evaluate the following expression. Express your answer in simplest form.

$$-\frac{3}{8} \times -\frac{8}{3} =$$

- A. 0
- B. 1
- C. - 1
- D. None of the above.

6.

If y is proportional to x , and $y = 4$ when $x = 6$, what is the constant of proportionality between them (the ratio of x to y)?

- A. $\frac{4}{6}$
- B. $\frac{2}{3}$
- C. $\frac{3}{2}$
- D. $\frac{3}{1}$

7.

Which of the following sets of ordered pairs shows a proportional relationship?

- A. $\{(4, 2), (8, 3), (12, 4), (16, 5)\}$
- B. $\{(1, 2), (2, 3), (3, 4), (4, 5)\}$
- C. $\{(10, 2), (20, 4), (30, 6), (40, 8)\}$

D. $\left\{ \left(\frac{1}{2}, \frac{2}{3} \right), \left(\frac{3}{4}, \frac{5}{6} \right), \left(\frac{6}{7}, \frac{8}{9} \right) \right\}$

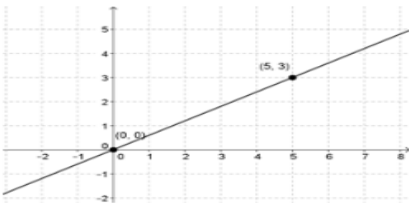
8.

John eats a bowl of cereal for 3 of his 4 meals each day. He finishes two gallons of milk in eight days. How much milk does John use for one bowl of cereal? (Assume he only uses the milk for his cereal.)

- A. One-twelfth of a gallon of milk
- B. One cup of milk
- C. Two cups of milk
- D. One-sixth of a gallon of milk

9.

According to the graph, what is the constant of proportionality?



- A. $\frac{3}{5}$
- B. 5
- C. 3
- D. $\frac{1}{3}$

10.

According to the table, how much does one ticket cost?

Number of Tickets	Total Cost
3	\$ 21.00
4	\$ 28.00
5	\$ 35.00
6	\$ 42.00

- A. \$21.00
- B. \$4.75
- C. \$7.00
- D. \$16.50