



## Level 3: The Number System Pre-Test

### Question 1:

Monique has  $3\frac{1}{2}$  gallons of paint. To paint one shed, she needs  $\frac{1}{2}$  gallon of paint.

Which expression can Monique use to find out how many sheds she can paint?

- a.  $3 \div 2 + \frac{1}{4}$
- b.  $3 \times 2 + \frac{1}{2} \times 2$
- c.  $3 \times \frac{1}{2} + \frac{1}{2} \times \frac{1}{2}$
- d.  $3 \div \frac{1}{2} + \frac{1}{4}$

### Question 2:

A train is  $\frac{3}{11}$  of a mile long.

Which number is equivalent to  $\frac{3}{11}$ ?

- a.  $0.\overline{27}$
- b.  $0.\overline{27}$
- c.  $0.2\overline{72}$
- d.  $0.\overline{272}$

### Question 3:

The table shows distance above and below sea level.

Feature	Height Above or Below Sea Level (ft)
Ruppell's vulture (highest flying bird)	36,100
Mount Everest Peak	29,035
Sperm whale (deepest diving mammal)	-9,800
Wreck of the Titanic	-12,460
Puerto Rico Trench	-23,232
Mariana Trench	-35,750

How much deeper is the Puerto Rico Trench than the wreck of the Titanic?

- a. 10,772 feet
- b. 23,290 feet
- c. 35,692 feet
- d. 48,210 feet



**Question 4:**

Suppose that  $m$  and  $p$  represent negative account balances for a company. Which expression is equivalent to  $m + p$ ?

- a.  $m + |p|$
- b.  $m - |p|$
- c.  $|m| + |p|$
- d.  $|m| - |p|$

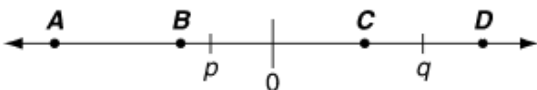
**Question 5:**

Which expression is equivalent to  $-q + (-m)$ ?

- a.  $-q + m$
- b.  $-q - m$
- c.  $q - m$
- d.  $q + m$

**Question 6:**

The number line shows the locations of two numbers,  $p$  and  $q$ .



Which point **best** approximates the location of  $p + q$ ?

- a. point A
- b. point B
- c. point C
- d. point D



**Question 7:**

Which expression is equivalent to  $-\frac{1}{2}(3 - \frac{2}{5})$ ?

- a.  $-\frac{3}{2} - \frac{1}{5}$
- b.  $-\frac{3}{2} + \frac{1}{5}$
- c.  $-3\frac{1}{2} - \frac{1}{5}$
- d.  $-3\frac{1}{2} + \frac{1}{5}$

**Question 8:**

Timothy writes the product of 12 numbers. Each of the numbers is  $-1$ .

What is the product of the 12 numbers?

**Question 9:**

Apples and pears are both on sale for \$1.89 per pound. James bought 2.3 pounds of apples and 1.6 pounds of pears.

To the nearest cent, what was the total cost in dollars?

\$

**Question 10:**

Which of these equations is true?

- a.  $(-\frac{1}{2}) - (-\frac{1}{3} + 2) = (-\frac{1}{2} - (-\frac{1}{3})) + 2$
- b.  $(-\frac{1}{2}) - (-\frac{1}{3} + 2) = (-\frac{1}{2} + (-\frac{1}{3})) - 2$
- c.  $(-\frac{1}{2}) + (-\frac{1}{3} - 2) = (-\frac{1}{2} - (-\frac{1}{3})) - 2$
- d.  $(-\frac{1}{2}) + (-\frac{1}{3} + 2) = (-\frac{1}{2} + (-\frac{1}{3})) + 2$



**Question 11:**

Pilar solved a problem as shown below.

	$\frac{3}{4} \div \left(\frac{5}{8} + \frac{1}{2}\right) =$
Step 1	$\frac{3}{4} \div \left(\frac{5}{8} + \frac{4}{8}\right) =$
Step 2	$\frac{3}{4} \div \frac{9}{8} =$
Step 3	$\frac{4}{3} \times \frac{9}{8} =$
Step 4	$\frac{36}{24} =$
Step 5	3

In which step did Pilar make her first error?

- a. Step 1
- b. Step 2
- c. Step 3
- d. Step 4

**Question 12:**

At her job, Carmen earns \$8.40 per hour for regular time and \$12.60 per hour for overtime. Last week, Carmen worked 40 hours of regular time and  $6\frac{1}{4}$  hours of overtime.

What amount, in dollars, did Carmen earn last week at her job?

\$

**Question 13:**

A whole number is represented by  $n$ .

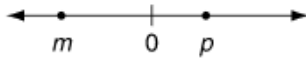
Which statement is true about  $n$  and  $-n$ ?

- a. Their sum is zero.
- b. Their difference is zero.
- c. Their product is zero.
- d. Their quotient is zero.



**Question 14:**

Points  $m$  and  $p$  are shown on a number line.



Which expression gives the distance between the two points?

- a.  $m + p$
- b.  $|m| - |p|$
- c.  $|m + p|$
- d.  $|m - p|$

**Question 15:**

This expression represents a rational number.

$$\frac{m+1}{p+1}$$

Which statement is true?

- a.  $m \neq 0$
- b.  $m \neq -1$
- c.  $p \neq 0$
- d.  $p \neq -1$