

## Math 9 Accelerated - Exam Review: Chapter 3

## Multiple Choice

Identify the choice that best completes the statement or answers the question.

1. Which numbers are rational numbers?

$$\frac{2}{11}, 3.6, 0.\overline{83}, \frac{11}{2}$$

A  $\frac{2}{11}$  and 3.6

B  $\frac{2}{11}$  and  $\frac{11}{2}$

C All of them

D  $\frac{2}{11}$ , 3.6, and  $\frac{11}{2}$

2. Order the numbers from least to greatest.

$$-0.4, -0.\overline{4}, -0.\overline{44}$$

A  $-0.44, -0.\overline{4}, -0.4$

B  $-0.4, -0.\overline{4}, -0.44$

C  $-0.\overline{4}, -0.44, -0.4$

D  $-0.4, -44, -0.\overline{4}$

3. Which of these numbers are between  $\frac{4}{6}$  and  $\frac{7}{5}$ ?

$$\frac{5}{6}, \frac{1}{5}, \frac{7}{8}, \frac{4}{5}$$

A  $\frac{5}{6}$  and  $\frac{7}{8}$

B  $\frac{5}{6}, \frac{7}{8},$  and  $\frac{4}{5}$

C  $\frac{1}{5}$  and  $\frac{7}{8}$

D  $\frac{5}{6}$  and  $\frac{4}{5}$

4. Determine this sum.

$$\frac{14}{7} + \left(-\frac{15}{14}\right)$$

A  $\frac{13}{14}$

B  $-\frac{13}{14}$

C  $\frac{1}{7}$

D  $-\frac{1}{7}$

5. A student first borrowed \$40.25, then borrowed another \$15.75 from his father.

He then paid back \$20.75. How much does he still owe his father?

A \$3.75

B \$45.25

C \$24.50

D \$35.25

6. Which expression has the least sum?

i)  $9.43 + 6.05$

ii)  $-9.43 + 6.05$

iii)  $9.43 + (-6.05)$

iv)  $-9.43 + (-6.05)$

A ii

B i

C iii

D iv

7. Determine this difference.

$$3.7 - (-5.9)$$

A 9.6

B -21.8

C 8.6

D -2.2

8. Determine this difference.

$$\frac{18}{7} - \left(-\frac{5}{7}\right)$$

A  $\frac{23}{7}$

B  $-\frac{13}{7}$

C  $-\frac{23}{7}$

D  $\frac{13}{7}$

9. Determine this difference.

$$-\frac{3}{4} - \frac{7}{8}$$

A  $-\frac{13}{8}$

B  $\frac{1}{8}$

C  $-\frac{1}{8}$

D  $\frac{13}{8}$

10. Determine this product.

$$(-3.3) \times 6$$

A -19.8

B -198

C -1.98

D 19.8

11. Determine this product.

$$\frac{4}{9} \times (-6)$$

A  $-\frac{8}{3}$

B  $\frac{50}{9}$

C  $-\frac{50}{9}$

D  $\frac{8}{3}$

12. Which products are less than 0?

i)  $(-0.6) \times (1.1)$

ii)  $(-2.3) \times (-1.8)$

iii)  $(-1.2) \times (-0.7)$

iv)  $(1.5) \times (-1.8)$

A ii

B i, iii, and iv

C i and iv

D ii and iii

13. Determine this product.

$$(1.2)(-7.57)$$

A -9.084

B -90.84

C 9.084

D -0.9084

14. The price of a share changed by  $-\$1.45$ . A

person owns 190 shares.

By how much did his shares change in value?

A  $-\$85.50$

B  $-\$275.50$

C  $+\$275.50$

D  $-\$131.03$

15. Which quotients are less than 0?

i)  $\left(\frac{-7}{8}\right) \div \left(\frac{9}{-8}\right)$

ii)  $\left(\frac{-7}{8}\right) \div \left(\frac{9}{8}\right)$

iii)  $\left(\frac{-7}{-8}\right) \div \left(\frac{-9}{8}\right)$

iv)  $\left(\frac{-7}{8}\right) \div \left(\frac{-9}{8}\right)$

A ii and iii

B i and iii

C i and iv

D ii and iv

16. Determine this quotient.

$$(-2.8) \div 4$$

A -0.7

B 0.7

C -7

D -0.07

17. Determine this quotient.

$$\frac{11}{12} \div \left(-\frac{5}{6}\right)$$

A  $-\frac{55}{72}$

B  $-\frac{72}{55}$

C  $-\frac{10}{11}$

D  $-\frac{11}{10}$

18. Evaluate.

$$3.4 - (-1.4) \times (0.9)$$

A 4.32

B 1.8

C 2.14

D 4.66

19. Which operation would you do first to evaluate this expression?

$$8.8 - 1.6 \div 0.2 \times 2.2 + 3.7$$

A Divide 1.6 by 0.2.

B Subtract 1.6 from 8.8.

C Add 3.7 to 2.2.

D Multiply 0.2 by 2.2.

20. Evaluate.

$$\frac{5}{6} - \frac{2}{3} \times \frac{3}{4} + \frac{5}{6}$$

A -4

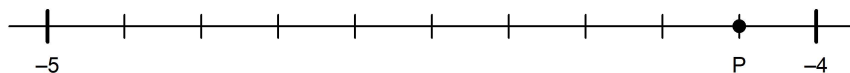
B  $-\frac{1}{72}$

C  $\frac{7}{6}$

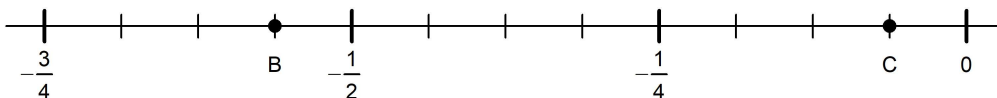
D  $\frac{5}{7}$

### Short Answer

1. Write the rational number represented by the letter P on the number line, as a decimal.



2. Write the rational number represented by each letter on the number line, as a fraction.



3. Insert  $<$ ,  $>$ , or  $=$  to make each expression true.

a)  $3.08 \square 3\frac{2}{25}$

b)  $3\frac{1}{6} \square 3.11$

4. Determine this sum.

$$-5.23 + (-2.72)$$

5. Determine this sum.

$$-\frac{3}{2} + \frac{2}{5}$$

6. Determine this sum.

$$-4\frac{3}{4} + \left(-1\frac{3}{5}\right)$$

7. Determine this difference.

$$-4.5 - 10.1$$

8. Determine this difference.

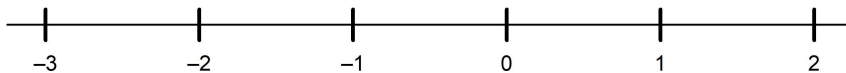
$$6\frac{1}{2} - \left(-5\frac{1}{3}\right)$$

9. Which expressions have negative answers?  
Determine these negative answers.
- $-6.4 - 24.5$
  - $14.4 - (-15.1)$
  - $-3.7 + (-32.4)$
10. Evaluate this expression.  
 $\frac{11}{2} - \left(-\frac{7}{5}\right) + \left(-\frac{13}{4}\right)$
11. Determine this product.  
 $(-17.5)(-19.2)$
12. Determine this product.  
 $\left(3\frac{1}{2}\right)\left(-3\frac{2}{3}\right)$
13. Determine this product.  
 $\left(\frac{3}{2}\right)\left(-\frac{3}{2}\right)\left(-\frac{5}{7}\right)$
14. Determine this quotient.  
 $\left(-\frac{4}{3}\right) \div \left(-\frac{5}{3}\right)$
15. Which quotients are less than 0?
- $-2\frac{2}{5} \div 1\frac{7}{8}$
  - $2\frac{2}{5} \div (-\frac{2}{9})$
  - $-1\frac{7}{8} \div (-\frac{2}{9})$
  - $\frac{2}{9} \div (-2\frac{2}{5})$
16. Determine this quotient.  
 $(-21.35) \div (-3.5)$
17. Determine this quotient.  
 $\frac{8}{63} \div \frac{4}{7}$
18. Determine this quotient.  
 $\left(-8\frac{2}{5}\right) \div \left(-1\frac{4}{5}\right)$
19. Which operation would you do first to evaluate this expression?  
 $6.4 - 3.8 \div 2.4 \times 4.1$
20. Evaluate.  
 $\frac{2}{3} - \left(-\frac{7}{12}\right)\left(-\frac{4}{21}\right)$
21. Evaluate.  
 $1\frac{7}{8} \times 2\frac{2}{5} - 1\frac{3}{4}$
22. Evaluate.  
 $\frac{0.6 \times 2.7}{0.162 \div 0.3}$

## Problem

1. a) Show these rational numbers on the number line:

$$-1\frac{2}{3}, 0.5, 1\frac{3}{4}, -\frac{5}{6}, -0.5, -2.1, 1.4, \frac{5}{6}$$



- Which number is least?
- Which number is greatest?

2. Melissa earns \$45.25 working in a coffee shop, and \$18.25 for babysitting. She spends \$31.64 on art supplies and \$15.48 on a computer game.
- Write an addition statement to represent Melissa's income and expenditure.
  - How much money does Melissa have left?
3. a) Without adding, how can you tell which expression has the least sum? Explain your reasoning.
- $-10.5 + 2.7 + (-5.5)$
  - $-10.5 + (-2.7) + (-5.5)$
  - $-10.5 + (-2.7) + 5.5$
- b) Determine the least sum.
4. a) On Monday, the price of a share in an oil company changed by  $-\$1.27$ . Karen owns 120 shares in the oil company. By how much did the shares change in value on Monday?
- b) On Monday, the price of a share in a gas company changed by  $\$1.43$ . Karen owns 190 shares in the gas company. By how much did the shares change in value on Monday?
- c) Calculate Karen's overall gain or loss on Monday.
5. Replace  $\square$  with a rational number to make each statement true.
- $\square \div 1.45 = -0.3$
  - $\frac{7}{18} \div \square = -\frac{7}{12}$
6. At a desert resort, the temperature at 7 a.m. was  $5^{\circ}\text{C}$ . The temperature increased by an average of  $3.6^{\circ}\text{C}$  each hour until it reached  $32^{\circ}\text{C}$ . How long did it take to reach this temperature?
7. Find the errors in this solution. Write a correct solution.
- $$\begin{aligned}
 &1.7 \times (4.6 - 2.1) + 3.5 \times 1.3 \\
 &= 1.7 \times 2.5 + 3.5 \times 1.3 \\
 &= 1.7 \times 6 \times 1.3 \\
 &= 13.26
 \end{aligned}$$
8. Evaluate. Show your work.
- $$\left[ 1\frac{5}{7} \times \left( -3\frac{5}{6} \right) \right] \div \left[ \left( -2\frac{1}{10} \right) \div 0\frac{7}{8} \right]$$