

Task 1: Unit Test Review Rational Numbers(Chapter 3)

Name: _____

Multiple Choice: *Identify the choice that best completes the statement or answers the question.*

____ 1. Identify equal rational numbers in this list:

$$\frac{-3}{-4}, \frac{-3}{4}, -\frac{4}{3}, \frac{3}{-4}, -\frac{3}{4}$$

a. $-\frac{4}{3}$ and $\frac{3}{-4}$

c. $\frac{-3}{4}, -\frac{4}{3},$ and $-\frac{3}{4}$

b. $\frac{-3}{4}, \frac{3}{-4},$ and $-\frac{3}{4}$

d. $\frac{-3}{-4}$ and $-\frac{4}{3}$

____ 2. 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 $\frac{4}{5}$

____ 3. Which expression has the same sum as $-\frac{5}{6} + \frac{11}{12}$?

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

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

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

iv) $\frac{11}{12} + \frac{5}{6}$

a. i

b. iv

c. iii

d. ii

____ 4. Which expressions have the same answer as $-12.3 - (-7.8)$?

i) $7.8 - 12.3$

ii) $7.8 + 12.3$

iii) $-12.3 + 7.8$

iv) $-7.8 - 12.3$

a. i and iii

b. ii and iv

c. ii and iii

d. iii and iv

____ 5. Determine this difference.

$$8.54 - (-3.76)$$

a. -32.11 b. 4.78 c. 11.30 d. 12.30

____ 6. Determine this product.

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

a. $7\frac{4}{5}$

b. $2\frac{8}{15}$

c. $-2\frac{8}{15}$

d. $-7\frac{4}{5}$

___ 7. Determine this quotient.

$$\frac{3}{14} \div \left(-\frac{15}{4}\right)$$

a. $-\frac{2}{35}$

b. $-\frac{5}{56}$

c. $-\frac{45}{56}$

d. $-\frac{35}{2}$

___ 8. Determine this product.

$$(-3.3) \times 6$$

a. -19.8

b. -198

c. -1.98

d. 19.8

___ 9. Which expressions have the same product as $(-5.2) \times (2.4)$?

i) $(-3.2) \times (-3.9)$

ii) $-(2.6) \times (4.8)$

iii) $(1.6) \times (-7.8)$

iv) $(-1.2) \times (-10.4)$

v) $(2.4) \times (-5.2)$

a. i and iv b. ii, iii, and v c. i, ii, and v d. iii, iv, and v

___ 10. Determine this product.

$$(1.2)(-7.57)$$

a. -9.084

b. -90.84

c. 9.084

d. -0.9084

___ 11. Which numbers are rational numbers?

$$\frac{2}{5}, 3.6, 0.\overline{76}, \frac{5}{2}$$

a. All of them

c. $\frac{2}{5}$, 3.6, and $\frac{5}{2}$

b. $\frac{2}{5}$ and $\frac{5}{2}$

d. $\frac{2}{5}$ and 3.6

___ 12. 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.

c. Add 3.7 to 2.2.

b. Subtract 1.6 from 8.8.

d. Multiply 0.2 by 2.2.

___ 13. Evaluate.

$$\frac{5}{6} \div \left(\frac{4}{3} + \frac{1}{6}\right)$$

a. $\frac{25}{54}$

b. $\frac{8}{15}$

c. $\frac{5}{9}$

d. $\frac{19}{24}$

___ 14. 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. $\frac{5}{7}$

___ 15. Evaluate.

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

a. $\frac{1}{3}$

b. $\frac{7}{19}$

c. -12

d. $\frac{4}{35}$

____ 16. The formula $F = \frac{9}{5} \times C + 32$ can be used to convert Celsius temperature to Fahrenheit.

Convert -20°C to Fahrenheit.

- a. 93.6°F b. 13.8°F c. -4°F d. -68°F

Short Answer: Show All work in the space provided:

17. Determine this sum.

$$-4.1 + 5.6$$

18. Determine this difference.

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

19. Determine this product.

$$4 \times \left(-\frac{7}{3}\right)$$

20. Which quotients are less than 0?

i) $-2\frac{2}{5} \div 1\frac{7}{8}$

ii) $2\frac{2}{5} \div \left(-\frac{2}{9}\right)$

iii) $-1\frac{7}{8} \div \left(-\frac{2}{9}\right)$

iv) $\frac{2}{9} \div \left(-2\frac{2}{5}\right)$

21. Evaluate.

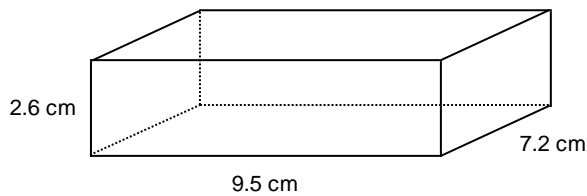
$$\frac{2}{3} - \left(-\frac{7}{12}\right) \left(-\frac{4}{21}\right)$$

22. Evaluate.

$$\left[\frac{1}{3} + \frac{3}{5}\right] \div \left[\left(-\frac{5}{9}\right) \times \frac{12}{25}\right]$$

23. The following maximum temperatures were recorded for one week: -2.6°C , -1.5°C , 2.2°C , 0.9°C , -1.6°C , -3.2°C , -2.7°C
 Calculate the mean maximum temperature for the week. Give your answer to the nearest tenth of a degree.

24. The formula for the surface area of a right rectangular prism is given by $A = 2(ab + bc + ac)$, where a is its length, b is its width, and c is its height. Determine the surface area of this prism.



25. Classify the following numbers as a natural number, whole number, integer, and/or rational number by placing a ✓ in **all** appropriate boxes.

Values	Whole Numbers	Natural Numbers	Integers	Rational Numbers
5				
$\sqrt{\frac{49}{100}}$				
0				

Task 1: Unit Test Review Rational Numbers

Answer Section

MULTIPLE CHOICE

- | | |
|------------|------------|
| 1. ANS: B | 11. ANS: A |
| 2. ANS: B | 12. ANS: A |
| 3. ANS: D | 13. ANS: C |
| 4. ANS: A | 14. ANS: C |
| 5. ANS: D | 15. ANS: B |
| 6. ANS: D | 16. ANS: C |
| 7. ANS: A | |
| 8. ANS: A | |
| 9. ANS: B | |
| 10. ANS: A | |

SHORT ANSWER

- | | |
|-----------------------------|---|
| 17. ANS:
1.5 | 20. ANS:
i, ii, and iv |
| 18. ANS:
$11\frac{5}{6}$ | 21. ANS:
$\frac{5}{9}$ |
| 19. ANS:
$\frac{28}{3}$ | 22. ANS:
$-\frac{7}{2}$, or $-3\frac{1}{2}$ |

PROBLEM

23. ANS:
The mean maximum temperature is the sum of the temperatures divided by the number of temperatures:
$$\frac{-2.6 + (-1.5) + 2.2 + 0.9 + (-1.6) + (-3.2) + (-2.7)}{7}$$
$$= \frac{-8.5}{7}$$
$$\doteq -1.2$$
The mean maximum temperature for the week was about -1.2°C .
24. ANS:
The surface area of the prism is 223.64 cm^2 .

25. Classify the following numbers as a natural number, whole number, integer, and/or rational number

by placing a ✓ in **all** appropriate boxes. (3 marks)

Values	Whole Numbers	Natural Numbers	Integers	Rational Numbers
5	✓	✓	✓	✓
$\sqrt{\frac{49}{100}}$				✓
0	✓		✓	✓