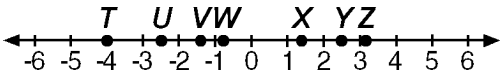
Name: _____ Date: _____
Kobrin/Losquadro Math 8

Unit 10 - Types of Numbers Test Review

Questions 1 and 2 refer to the following:

Use the number line below to answer the given question.



1) Which of the letters shown represents $-\sqrt{2}$ on the number line?

A) *U* B) *T* C) *W* D) *V*

2) Which of the letters shown represents $-\frac{4}{5}$ on the number line?

A) *X* B) *W* C) *V* D) *U*

Questions 3 through 13 refer to the following:

Determine which number property is illustrated by the given statement:

3) $a + b = b + a$

A) Associative Property of Addition
B) Distributive Property
C) Property of Additive Inverse
D) Commutative Property of Addition

4) $3 + (5 + 7) = 3 + (7 + 5)$

A) Distributive Property
B) Associative Property of Addition
C) Commutative Property of Addition
D) Property of Additive Inverse

5) $5 + (x + 1) = 5 + (1 + x)$

A) Associative Property of Addition
B) Property of Additive Inverse
C) Commutative Property of Addition
D) Distributive Property

6) $5 \times (9 \times 2) = 5 \times (2 \times 9)$

A) Distributive Property
B) Commutative Property of Multiplication
C) Property of Multiplicative Inverse
D) Associative Property of Multiplication

7) $5 + (1 + x) = (5 + 1) + x$

A) Associative Property of Addition
B) Distributive Property
C) Identity Property for Addition
D) Commutative Property of Addition

8) $2(7 + 3) = 2 \cdot 7 + 2 \cdot 3$

A) Commutative Property of Addition
B) Associative Property of Multiplication
C) Multiplication Property of Equality
D) Distributive Property

9) $3(x + 2) = 3x + 6$

A) Identity Property for Multiplication
B) Distributive Property
C) Commutative Property of Addition
D) Multiplication Property of Equality

10) $-3(x - 3) = -3x + 9$

A) Distributive Property
B) Multiplication Property of Equality
C) Identity Property for Multiplication
D) Commutative Property of Multiplication

11) $0 + y = y$

A) Identity Property for Addition
B) Commutative Property of Addition
C) Property of Additive Inverse
D) Associative Property of Addition

12) $z = 1 \times z$

A) Associative Property of Multiplication
B) Property of Multiplicative Inverse
C) Identity Property for Multiplication
D) Commutative Property of Multiplication

13) $0 \times y = 0$

A) Distributive Property
B) Commutative Property of Multiplication
C) Property of Multiplicative Inverse
D) Multiplication Property of Zero

14) Which of the following fractions has the **largest** value?

$\frac{4}{9}, \frac{3}{7}, \frac{1}{4}, \frac{5}{9}$

A) $\frac{5}{9}$ B) $\frac{1}{4}$ C) $\frac{3}{7}$ D) $\frac{4}{9}$

15) Choose the fraction with the **smallest** value.

$\frac{4}{7}, \frac{2}{9}, \frac{1}{8}, \frac{4}{9}$

A) $\frac{2}{9}$ B) $\frac{1}{8}$ C) $\frac{4}{9}$ D) $\frac{4}{7}$

16) Lindsey is cutting a long piece of taffy into smaller pieces so she can share them with her friends. The lengths of the taffy pieces are $1\frac{1}{5}$ inches, $1\frac{4}{5}$ inches, $2\frac{2}{3}$ inches, $1\frac{3}{4}$ inches, and $2\frac{1}{5}$ inches. Which list of lengths is ordered from **shortest** to **longest**?

A) $1\frac{4}{5}, 1\frac{3}{4}, 1\frac{1}{5}, 2\frac{2}{3}, 2\frac{1}{5}$
C) $2\frac{2}{3}, 1\frac{3}{4}, 1\frac{1}{5}, 2\frac{1}{5}, 1\frac{4}{5}$
B) $1\frac{1}{5}, 2\frac{1}{5}, 2\frac{2}{3}, 1\frac{3}{4}, 1\frac{4}{5}$
D) $1\frac{1}{5}, 1\frac{3}{4}, 1\frac{4}{5}, 2\frac{1}{5}, 2\frac{2}{3}$

Questions 17 through 23 refer to the following:

Choose the answer choice that makes the given statement **true**.

17) $-3\frac{1}{8} \square -4.1$

A) $-3\frac{1}{8} = -4.1$
C) $-3\frac{1}{8} < -4.1$
B) $-3\frac{1}{8} > -4.1$

18) $-4\frac{1}{2} \square -4.5$

A) $-4\frac{1}{2} > -4.5$
C) $-4\frac{1}{2} = -4.5$
B) $-4\frac{1}{2} < -4.5$

19) $-3.3 \square -3\frac{1}{3}$

A) $-3.3 < -3\frac{1}{3}$
C) $-3.3 = -3\frac{1}{3}$
B) $-3.3 > -3\frac{1}{3}$

20) $-4\frac{1}{3} \square -4.3$

A) $-4\frac{1}{3} > -4.3$
C) $-4\frac{1}{3} < -4.3$
B) $-4\frac{1}{3} = -4.3$

21) $-\frac{5}{4} \square \frac{2}{3}$

A) $-\frac{5}{4} > \frac{2}{3}$
B) $-\frac{5}{4} = \frac{2}{3}$
C) $-\frac{5}{4} < \frac{2}{3}$

22) $-7 \square -2$

A) $-7 < -2$
B) $-7 = -2$
C) $-7 > -2$

23) $-4.3 \square -8.1$

A) $-4.3 = -8.1$
C) $-4.3 < -8.1$
B) $-4.3 > -8.1$

24) Which of the following is an example of the inverse property of multiplication?

A) $5 \times (7 \times 3) = (5 \times 7) \times 3$
B) $15 \times 0 = 0$
C) $15 \times 1 = 15$
D) $5 \times \frac{1}{5} = 1$

25) Which property of numbers does the following example show?

$$\frac{2}{3} \times \frac{3}{2} = 1$$

A) inverse property of multiplication
B) identity property of multiplication
C) associative property of multiplication
D) distributive property of multiplication over addition

26) Which number property do these statements demonstrate?

$9 + (-9) = 0$ and $-5 + 5 = 0$

A) commutative property of addition
B) associative property of addition
C) inverse property of addition
D) identity property of addition

27) Which number property does this statement describe?

"The sum of a number and its opposite is zero."

A) commutative property of addition
B) inverse property of addition
C) identity property of addition
D) associative property of addition

28) The *best* description of the number $-\sqrt{36}$ is

A) an integer
B) an integer and an irrational number
C) an integer and a rational number
D) an integer and an irrational number

29) The *best* description of the number -5 is

A) an integer and a rational number
B) a natural number
C) an integer and an irrational number
D) a natural number and a rational number

30) Which of the following is an integer?

A) 6.6
C) $6\frac{2}{3}$
B) -6.6
D) 6

31) Which of the following is an integer?

A) -10.1
C) 10.111...
B) 101
D) 10.1

32) Which of the following numbers is *not* a counting number?

A) -1
B) 0
C) 1
D) 10

33) Which of the following is a natural number?

A) $\frac{3}{4}$ C) $\sqrt{9}$

B) 2.4 D) $\sqrt{7}$

34) Which of the following is a natural number?

A) 8.9 C) -8

B) -8.9 D) 8

35) Which is an example of the commutative property of addition?

A) $2 + 3 = 3 + 2$

B) $2 + 3 = 1 + 4$

C) $(2 + 3) + 4 = 2 + (3 + 4)$

D) $2(3 + 4) = 2 \cdot 3 + 2 \cdot 4$

36) Which is an illustration of the associative property?

A) $ab + 0 = ab$

B) $a + (b + c) = (a + b) + c$

C) $a(b + c) = ab + ac$

D) $a + b = b + a$

37) Which is an illustration of the associative property?

A) $a(bc) = (ab)c$ C) $a + 0 = a$

B) $a(b + c) = ab + ac$ D) $ab = ba$

38) Which sentence is an example of the distributive property?

A) $a \cdot 1 = a$ C) $a(b + c) = ab + ac$

B) $ab = ba$ D) $a(bc) = (ab)c$

39) What number is the multiplicative identity element?

A) 0 B) $\frac{1}{2}$ C) -1 D) 1

40) What number is the additive identity element?

A) 0 B) -1 C) 1 D) $\frac{1}{2}$

41) Which of the following is a rational number?

A) $\sqrt{\frac{5}{8}}$ C) $\sqrt{16}$

B) $\sqrt{15}$ D) π

42) Which of the following is a rational number?

A) $\sqrt{8}$ C) $\sqrt{20}$

B) $\sqrt{12}$ D) $\sqrt{121}$

43) Which of the following is a rational number?

A) $\sqrt{20}$ C) $\sqrt{9}$

B) $\sqrt{5}$ D) $\sqrt{12}$

44) Which of the following is an integer?

A) $\sqrt{5}$ C) π

B) $\sqrt{49}$ D) $\sqrt{8}$

45) Which of the following is an irrational number?

A) $\sqrt{3}$ C) $\sqrt{400}$

B) $\frac{8}{11}$ D) 5.7

46) Which of the following is an irrational number?

A) $\sqrt{4}$ B) $\sqrt{6}$ C) $\frac{3}{4}$ D) 0

47) Which of the following is an irrational number?

A) $\sqrt{9}$ C) 0

B) $-\frac{1}{3}$ D) π

48) Is 5.67 rational or irrational?

49) Is $\sqrt{3}$ rational or irrational?

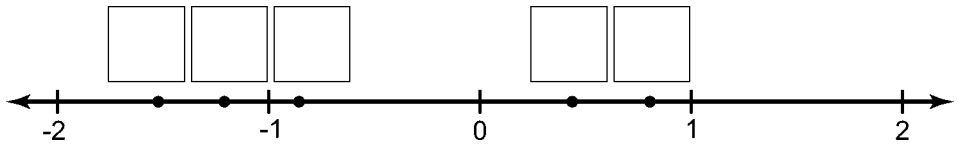
50) Is $\sqrt{4}$ rational or irrational?

51) ***Part A***

Andrea wanted to put the following numbers on the number line.

0.8 , -1.5 , 0.4 , -1.2 , -0.9

In the boxes above the points on the number line, write the correct number for each point.



Part B

(**a**) Which number below is **greater**?

-1.5 or -1.2

Answer: _____

(**b**) On the lines below, explain how you know which number is **greater**.

_____

_____

_____

52) ***Part A***

Which of the numbers below are rational numbers?

-3 , π , $\frac{5}{16}$, 3 , -9 , 7 , 2

Answer: _____

Part B

Identify which of the following numbers are **not** rational numbers.

-1 , $\frac{3}{6}$, 2 , 5 , -4 , 0 , 10

Answer: _____

1) D 2) B 3) D 4) C 5) C

6) B 7) A 8) D 9) B 10) A

11) A 12) C 13) D 14) A 15) B

16) D 17) B 18) C 19) B 20) C

21) C 22) A 23) B 24) D 25) A

26) C 27) B 28) C 29) A 30) D

31) B 32) A 33) C 34) D 35) A

36) B 37) A 38) C 39) D 40) A

41) C 42) D 43) C 44) B 45) A

46) B 47) D

48) rational

49) irrational

50) rational

51) Part A: -1.5, -1.2, -0.9, 0.4, 0.8; Part B: (a) -1.2; (b) SAMPLE ANSWER: -1.2, is greater because it is closer to the number 0 on a number line.

52) Part A: -3, 3, $\frac{5}{16}$, -9, 2; Part B: 0