

Name: _____

Math 1 Unit 1 Review

1. What is the value of n that satisfies the equation below?

$$-5(2n + 3) + 3(3n + 4) = -8$$

- A. -11
- B. 5
- C. 8
- D. 35

2. The total score in a football game was 72 points. The winning team scored 12 points more than the losing team. How many points did the winning team score?

- A. 30
- B. 42
- C. 54
- D. 60

3. What is the solution of the equation $3y - 5y + 10 = 36$?

- A. -13
- B. 2
- C. 4.5
- D. 13

4. A teacher asked the class to solve the equation $3(x + 2) = 21$. Robert wrote $3x + 6 = 21$ as his first step.

Which property did he use?

- A. associative property
- B. commutative property
- C. distributive property
- D. zero property of addition

5. Which expression represents "5 less than twice x "?

- A. $2x - 5$
- B. $5 - 2x$
- C. $2(5 - x)$
- D. $2(x - 5)$

6. Which verbal expression can be represented by $2(x - 5)$?

- A. 5 less than 2 times x
- B. 2 multiplied by x less than 5
- C. twice the difference of x and 5
- D. the product of 2 and x , decreased by 5

7. How can you express "2 times (25 decreased by a number)"?

- A. $2y - 25$
- B. $2(25 - y)$
- C. $2y(25 - y)$
- D. $2(y + 25)$

8. Solve the equation below for x .

$$4(2x + 8) - 3x = 47$$

- A. $x = 13$
- B. $x = 2$
- C. $x = 3$
- D. $x = 7.8$

9. Which of the following mathematical expressions represents the quotient of m and 15?

- A. $m \div 15$
- B. $15m$
- C. $15 \div m$
- D. $15 \times m$

10. When solving equations, sometimes you have to simplify the equation first. When solving $3x + 2 + x - 6 = 25$, what might your first step look like?

- A. $3x + 8 = 25$
- B. $3x - 4 = 25$
- C. $4x + 8 = 25$
- D. $4x - 4 = 25$

11. Boyle's Law involves the pressure and volume of gas in a container. It can be represented by the formula $P_1V_1 = P_2V_2$. When the formula is solved for P_2 , the result is

- A. $P_1V_1V_2$
- B. $\frac{V_2}{P_1V_1}$
- C. $\frac{P_1V_1}{V_2}$
- D. $\frac{P_1V_2}{V_1}$

12. Michael borrows money from his uncle, who is charging him simple interest using the formula $I = Prt$. To figure out what the interest rate, r , is, Michael rearranges the formula to find r . His new formula is r equals

- A. $\frac{I - P}{t}$
- B. $\frac{P - I}{t}$
- C. $\frac{I}{Pt}$
- D. $\frac{Pt}{I}$

13. The formula for the surface area of a sphere is $SA = 4\pi r^2$. The radius, r , of the sphere may be expressed as:

- A. $4\pi r$
- B. $\sqrt{\frac{SA}{4\pi}}$
- C. $\sqrt{\frac{4\pi}{SA}}$
- D. $\frac{1}{4}\sqrt{\frac{SA}{4\pi}}$

14. If $rx - st = r$, which expression represents x ?

- A. $\frac{r + st}{r}$
- B. $\frac{r}{r + st}$
- C. $\frac{r}{r - st}$
- D. $\frac{r - st}{r}$

15. What is the next number in the sequence?

80, 40, 20, 10, _____

- A. 0
- B. 2
- C. 5
- D. 8

16. What is the next number in the sequence?

3, 6, 12, 24, _____

- A. 26
- B. 28
- C. 48
- D. 56

17. What is the sixth term in the counting sequence?

4, 8, 12, 16, ...

- A. 20
- B. 24
- C. 32
- D. 40

18. Callean is running for city council. To get her name on the ballot, she needs at least 10,000 signatures. She already has 420 signatures. Her and her two friends plan on getting the rest of the signatures she needs this week. Which inequality can be used to determine how many signatures each person must get if each person gets the same amount of signatures?

- A. $3x + 420 \leq 10000$
- B. $3x + 420 \geq 10000$
- C. $3x + 10000 \leq 420$
- D. $3x + 10000 \geq 420$

19. Luke is having a birthday party. He can spend no more than \$300.00. He buys decorations that cost \$75.00. He wants to spend the rest of the money on pizza. If each pizza pie costs \$15.00, which inequality can be used to determine the most amount of pizza pies Luke can order?

- A. $15x + 300 \leq 75$
- B. $15x + 300 \geq 75$
- C. $15x + 75 \leq 300$
- D. $15x + 75 \geq 300$

20. Carol plans to sell twice as many magazine subscriptions as Jennifer. If Carol and Jennifer need to sell at least 90 subscriptions in all, which inequality could be used to determine how many subscriptions, x , Jennifer needs to sell?

- A. $x \geq 45$
- B. $2x \geq 90$
- C. $2x - x \geq 90$
- D. $2x + x \geq 90$

21. Which inequality represents the translation of the following sentence?

"The quotient of a number and 5 is less than or equal to that number increased by 1."

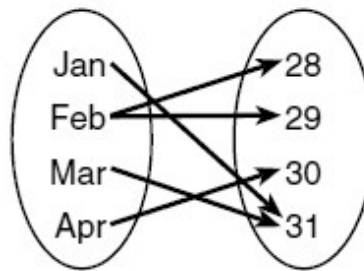
- A. $5x < x + 1$
- B. $\frac{x}{5} \leq x + 1$
- C. $\frac{x}{5} \geq x + 1$
- D. $\frac{x}{5} > x + 1$

22. Which inequality represents the translation of the following sentence?

"Four more than two times a number is less than or equal to five."

- A. $4 + 2x > 5$
- B. $2x + 4 < 5$
- C. $4 + 2x \geq 5$
- D. $2x + 4 \leq 5$

23. A mapping is shown in the diagram below.



This mapping is

- A. a function, because Feb has two outputs, 28 and 29
- B. a function, because two inputs, Jan and Mar, result in the output 31
- C. not a function, because Feb has two outputs, 28 and 29
- D. not a function, because two inputs, Jan and Mar, result in the output 31

24. Lynn, Jude, and Anne were given the function $f(x) = -2x^2 + 32$, and they were asked to find $f(3)$. Lynn's answer was 14, Jude's answer was 4, and Anne's answer was ± 4 . Who is correct?

- A. Lynn, only
- B. Jude, only
- C. Anne, only
- D. Both Lynn and Jude

25. Which table represents a relation that is not a function?

A.

Input	Output
-4	16
-2	4
2	4
4	16

C.

Input	Output
2	1
4	2
4	3
8	4

B.

Input	Output
-1	6
-2	15
-3	24
-4	33

D.

Input	Output
1	-15
5	0
9	5
10	25

26. Which table shows y as a function of x ?

A.

x	y
-3	-11
7	-1
-1	9
5	9

C.

x	y
-3	-11
-1	-6
7	9
-3	4

B.

x	y
7	4
-1	-7
7	9
-2	10

D.

x	y
6	-11
-1	-11
2	-1
6	-1

27. Given the relation $\{(8,2), (3,6), (7,5), (k,4)\}$, which value of k will result in the relation *not* being a function?

- A. 1
- B. 2
- C. 3
- D. 4

28. Find the value of the function $f(x) = 12x - 7$ for $x = -3$.

- A. -120
- B. 2
- C. -29
- D. -43

29. Kendra and Kenneth are bagging potatoes.

- Each bag gets 12 potatoes.
- Kendra filled 3 bags.
- Kenneth filled 4 bags.

What is the total number of potatoes the friends bagged?

- A. 19
- B. 84
- C. 96
- D. 99

30. Which expression is equivalent to

$$\frac{1}{3}(12 - 27x) + \frac{3}{4}(16x - 24)?$$

- A. $-21x - 14$
- B. $-21x - 20$
- C. $3x - 22$
- D. $3x - 14$