

Name: _____

Date: _____

Period: _____

Unit 3 Review

What grade do you want on this test? _____



So, what grade will you earn on this review? _____

1) The following steps were done to solve for x :

Step 1: $8x - 3 = 13$

Step 2: $8x - 3 + 3 = 13 + 3$

Step 3: $8x = 16$

Step 4: $\frac{8x}{8} = \frac{16}{8}$

Step 5: $x = 2$

What property can justify what was done on Step 2?

- A. Addition Property of Equality
- B. Subtraction Property of Equality
- C. Multiplication Property of Equality
- D. Division Property of Equality

2) The problem $-3(2x - 4) = 24$ is solved below:

Step 1: $-3(2x - 4) = 24$

Step 2: $-3(2x) + 3(-4) = 24$

Step 3: $-6x - 12 = 24$

Step 4: $-6x - 12 + 12 = 24 + 12$

Step 5: $-6x = 36$

Step 6: $\frac{-6x}{-6} = \frac{36}{-6}$

Step 7: $x = -6$

Which property is used incorrectly?

- i. Addition Property of Equality
- ii. Subtraction Property of Equality
- iii. Distribution Property of Equality
- iv. Division Property of Equality

3) Mr. Diaz gets paid by the mafia to win basketball games. He gets \$70 per win and \$1.25 per three-pointer made. Each game, Mr. Diaz wants to make \$75. If d represents the number of three-pointers made by Mr. Diaz, which equation shows this situation?

- a. $125d + 75 = 70$
- b. $d + 70 = 75$
- c. $75d + 70 = 1.25$
- d. $1.25d + 70 = 75$

4) What did Mr. Sinclair do to get from Step 1 to Step 2?

Step 1: $\frac{x}{2} + \frac{y}{3} = 5$

Step 2: $3x + 2y = 30$

Mr. Sinclair _____

5) What did Mr. M do to get from Step 1 to Step 2?

Step 1: $\frac{j}{5} + \frac{k}{4} = 3$

Step 2: $4j + 5k = 60$

Mr. M _____

6) Solve for m :

$$\frac{3}{4}k - \frac{2}{3}m = 2$$

7) Which of the following has an answer of $p = 2$?

a. $4p + 6 = 26$

b. $10 - 2p = 2$

c. $7p - 11 = 9p - 26$

d. $-16 + 2p = 12 - 5p$

8) The following equation is used to determine P , the total price of attending a Miami Heat basketball game with your family. Write an equivalent equation solved for f .

$$p = 18f + 184.50$$

9) Mr. Kowalski has already saved \$75 for a new stereo system that he's been wanting. He is planning to save money over the next 12 weeks until he has enough to buy the \$519 stereo system. How much does Mr. Kowalski need to save each week until he is ready to turn up?

10) This winter, Jackson is going to do a toy drive to help provide toys for children in the area. There are 40 classes participating in the project, and the goal is to collect more than 1,500 total toys. If each class collects the same amount of toys, how many toys must each class collect to reach their goal of more than 1,500?

A) 28

B) 37

C) 38

D) 45

11) You used the equation $t = .55b + 20$ to determine t , the total amount of money you can spend on b , number of bags of Hot Cheetos after buying a \$20 Jackson hoodie. If you can't spend any more than \$28, what is the range for the number of bags of Hot Cheetos you can buy?

a. $0 < b \leq 14$

b. $0 \leq b \leq 14$

c. $0 < b \leq 15$

d. $0 \leq b \leq 15$

- 12) Mr. K is driving back home to New York City. Since he's always super hungry he plans on stopping for 30 minutes every 3 hours. On average, he drives 75 mph. The equation below represents the total amount of time (in hours) where d is the distance, r is the rate, s is the number of stops and t is the time:

$$t = \frac{d}{r} + \frac{s}{3}$$

How far will Mr. K travel after 19 hours with 4 stops?

- 13) Which answer shows all possible solutions to the two inequalities below?

$$10x < 10 + 5x \quad \text{and} \quad 4 - 4x > 16$$

- A. $x < 2$
B. $-3 < x < 5$
C. $x < -3$
D. $x > -3$ or $x < 5$
- 14) Mr. Minchoff is planning a pool party at his apartment building for all of his teacher friends. It will cost him \$5.00 for each person to use the pool, and an additional \$4.25 per person for food. If he only has \$400 to spend on his party, how many awesome teacher friends (t) can he invite?
- 15) Mr Minchoff just recently flew from Boston to Miami, a distance of 1,735 miles. If the plane flew at an average speed of 580 miles per hour, what is the time (t) that it took him to complete his flight?
- a) Set up your equation that you will use to solve this problem.
b) Solve the equation and put your answer in a complete sentence.

- 16) Solve the following equations for y :

$$3x + 2y = m$$

$$x = \frac{(10 + y)m}{b}$$

$$kr = w(x + y)$$

17) Which of these, when simplified, will represent an irrational number?

$$(0.\overline{52})(\sqrt{144})$$

Because the product of a rational and an irrational number is irrational

$$(2\sqrt{17})\left(\frac{17}{3}\right)$$

Because the product of an irrational and a rational number is irrational

$$(3\sqrt{64})(4\sqrt{81})$$

Because the product of two irrational numbers is irrational

$$(.6\overline{5})\left(\frac{7}{2}\right)$$

Because the product of two rational numbers is irrational

18) Mr. Kowalski took the train to the store to pick up paint for his little brother's art project. His total cost of \$20.75 included both the cost of the 3 bottles of paint, and the \$3.50 he spent on his train tickets. How much did Mr. Kowalski pay for each bottle of paint?

- Set up the equation that you will use to solve this problem.
- Solve the equation and put your answer in a complete sentence.

19) The Jackson Bachata club is planning their budget. They want to spend at least \$500 but can spend no more than \$1,200. They are spending \$150 on their end of the year party, \$200 on new speakers, and the rest on 50 t-shirts. How much money can the team spend on each t-shirt?

20) Jackson recently received two shipments of milk to the cafeteria. Of the 300 bottles in the first shipment, exactly 8% were chocolate milk. In the second shipment, 5% of the milk bottles were chocolate. A total of 55 bottles of chocolate milk were ordered. How many total bottles of regular milk were ordered?