Math 6 - Unit 4: Equations & Inequalities

Name: _____

Study Guide - Mid-Unit Test

Class Period: 1 2 3 4 Date: _____

MULTIPLE CHOICE

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

1. Which step should be taken to **isolate the variable** in the following equation? $\frac{d}{8} = 126$
2. What is the **value of *c*** in the following equation? $67 + c = 183$
3. What is the **value of *j*** in the following equation? $j - 5.6 = 4.6$
4. What is the **value of *n*** in the following equation? $11n = 28.6$
5. What is the **value of *k*** in the following equation? $\frac{k}{21} = 7$
6. What is the **value of *a*** in the following equation? $\frac{a}{5} = 123$
7. Gabriel wants to solve the equation $\frac{5}{8}m = 25$.
   Which step should he **do to isolate *m*** on one side of the equation?
8. Judy spent **$5.67** on oranges that cost **$0.63 each**. If x = the number of oranges, write an equation that would determine how many oranges Judy purchased?
9. Anna bought a **16.7-pound** turkey for Thanksgiving this year. The equation $p - 16.7 = 2.5$ gives the weight *p*, in pounds, of the turkey she bought last Thanksgiving. How much did the turkey weigh last year?
10. Jenna's basketball team scored **62 points in its last game.** Jenna **scored 15 of the points**. Write an equation that could be used to determine the number of points *p* scored by Jenna's teammates?
11. Which is the **solution** to $7f = 833$?
12. Which **value** makes **the equation below true**? $\frac{d}{9} = 8.1$
13. Julia paid **$140** for **7 gift cards**. Each gift card was the same price. Write an equation that that represents the situation and find the **price of each** gift card?
14. A music teacher bought 17 recorders of equal price. She spent a total of $51. The equation $17r = 51$ can be used to find *r*, the price of each recorder in dollars. What was the price of each recorder?
15. Last week Randy worked **62 hours** in **7 days**. Write an equation that Randy could use to find the average number of hours he worked **each day**?
16. **Estephanie and two friends** went to Taco Mac for lunch. They decided to **split their bill evenly**. If they each paid $12, write an equation that would represent the **cost of their bill** and find out how much they spent in total.
17. Jason has a collection of 18 model planes. His father added to the collection, and the number of planes Jason now has can be modeled by the equation $\mathbf{18 + p = 42}$, where *p* represents the number of new planes. How many new planes did Jason's father give him?
18. Which **solution** makes the **equation true**? $x - 6.5 = 19$

*For **questions 19-21,** determine whether the given value is a solution of the equation by selecting **true** or **false**.*

19. $33 = x - 25$ for x = 52

    a. TRUE b. FALSE

20. $25 = \frac{k}{3}$ for $k = 3$

    a. TRUE b. FALSE

21. $0.7y = 49$ for $y = 70$

    a. TRUE b. FALSE

22. Silly Sally solved the equation for x and shows her solution below. **What should Silly Sally do to correct her mistake?**

$$36 + x = 54$$

$$\begin{array}{r} 36 + x = 54 \\ \underline{-36 \qquad +36} \\ x = 90 \end{array}$$

23. **Opposite** operations that "undo" each other are called _____.

24. Which step should be taken to **isolate the variable** in the following equation?

$$213n = 1418$$

25. Write a situation that **can** be represented by the equation $x + 5 = 17$?

26. Solve for *x*: $\frac{1}{4}x = 16$

27. Simplify the expression: $6(3x + 4) - 2x + 10y + 5$