Solving One-Step Equations Mini Quiz Review

Directions: Be sure to show all work, communicate your thought process, and justify your reasoning. Remember to check that your answers are complete, correct, and reasonable. If you complete work on scrap paper, please attach it. This quiz is worth 20 points.

Solve each equation. Check your solution.

1. $x - 9 = -7$ 2. $-8k = 64$ 3. $y + 11 = 34$

4. $\frac{1}{4}f = 12$ 5. $3 = 8 + r$ 6. $-25 = 2q$

7. *Which is the **best** description of the solution to the equation $-\frac{1}{2}y = 3$?*

   a. Apply the division property of equality to both sides of the equation by dividing each side by $-\frac{1}{2}$. $-\frac{1}{2}y$ divided by $-\frac{1}{2}$ is y, and 3 divided by $-\frac{1}{2}$ is -6.

   b. Use the division property of equality. Then check your answer. Since 3 divided by $-\frac{1}{2}$ is -6, x must be equal to -6.

   c. Divide both sides by $-\frac{1}{2}$ to see that x = -6. $-\frac{1}{2}y$ divided by $-\frac{1}{2}$ is y, and 3 divided by $-\frac{1}{2}$ is -6. Therefore, x = -6. To check this solution, substitute -6 for x to see that $-\frac{1}{2}$ *-6 is 3.

   d. Apply the division property of equality to both sides of the equation by dividing each side by $-\frac{1}{2}$. $-\frac{1}{2}y$ divided by $-\frac{1}{2}$ is y, and 3 divided by $-\frac{1}{2}$ is -6. Therefore, y = -6. To check this solution, substitute -6 for y to see that $-\frac{1}{2}$ * -6 = 3.

Write an equation to model each situation. Then solve your equation and justify your answer.

8. Together, Bob and Sally's dinner cost $43.22. If Bob owes $21.20 towards the bill, how much money should Sally put in?

9. The average temperature during a certain time period can be determined by dividing the sum of the daily temperatures by the number of days this statistic was recorded. If the average temperature over a 5 day period is 75 degrees Fahrenheit, what was the sum of the temperatures over those 5 days?

10. a. Solve for f. $fd = e$ b. Solve for v. $n + v = j$

11. The scales are in balance. Describe how to determine the weight of one oval if every square block weighs one pound.

12. Which property would you use to solve the equation $x - 322 = -8$?

a. Addition Property of Equality   b. Subtraction Property of Equality

c. Multiplication Property of Equality   d. Division Property of Equality