Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Summative Date: \_\_\_\_\_\_\_\_\_\_\_

**Expression and Equations Part Two Summative Review Guide**

**Domain: Expressions and Equations**

* I can solve real-world and mathematical problems by writing and solving equations.
* I can represent and analyze quantitative relationships between dependent and independent variables using graphs, tables, and equations.

**Directions:** Solve the following equations to determine the value of the given variable. Show all work!

1.) 7*g* = 63 2.) 98 = *d* + 34

3.) 13 = $\frac{y}{5}$ 4.) *h* – 18 = 54

5.) 6*m* – *m* = 35 6.) *p* + 1.2 = 3.47

**Directions:** Read the following situations and write an equation to represent each. Then, solve to determine the value of the variable.

7.) Dominic wants to find the measure of the missing angle. He knows that the sum of the two angles is equivalent to the measure of a right angle.

 a.) Write an equation to represent this situation. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 b.) Using your equation, solve for the measurement of the missing angle, ***x***.

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

8.) A cruise ship is traveling to the island of Cozumel, Mexico. The ship is moving at 23 miles per hour towards the island.

 a.) Write an equation to represent the relationship between the distance traveled, *d*, and the time, *t*.

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 b.) Identify the independent variable: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 c.) Identify the dependent variable: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 d.) Using your equation, solve for the distance traveled after 24 hours.

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 e.) Using your equation, solve for the time when the cruise ship has traveled 184 miles.

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

9.) Nancy has half as many books in her collection as Cassie does.

a.) Write an equation to represent the relationship between the number of books Nancy has, *n*, and the number of books Cassie has, *c*.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 b.) Using your equation, solve for the number of books Cassie has when Nancy has 32.

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 c.) Using your equation, solve for the number of books Nancy has when Cassie has 24.

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Directions:** Read each situation and identify the independent and dependent variable. Then, write an equation to show the relationship between the two variables.

10.) A parking lot charges an entrance fee of $1.25 and $.75 for each hour parked.

 a.) Write an equation relating the total cost, *c*, to the number of hours parked, *h*.

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 b.) Identify the independent variable: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 c.) Identify the dependent variable: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

11.) Aliyah wanted to start saving money to buy a car. She started with $100 and wanted to add $50 per month to her savings.

a.) Write an equation relating the number of months, *m*, to her total savings, *s.*

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 b.) Identify the independent variable: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 c.) Identify the dependent variable: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

12.) A cyclist is traveling at a constant rate of 16 miles per hour on his bike.

a.) Write an equation relating the distance traveled, *d*, to the time in hours, *t*.

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 b.) Identify the independent variable: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 c.) Identify the dependent variable: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

13.) At the local Starbucks they brew 15 pounds of coffee per hour. Write an equation where *c* represents the total amount of coffee brewed (in pounds) and *h* represents the time in hours. Determine the independent and dependent variable in this situation. Create a table to show the different quantities of coffee brewed after 1 – 6 hours and then graph this relationship.

 a.) Equation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 b.) Independent variable: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 c.) Dependent variable: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



|  |  |
| --- | --- |
| Time in hours (h) | Total coffee brewed (c) |
| 1 |  |
| 2 |  |
| 3 |  |
| 4 |  |
| 5 |  |
| 6 |  |

14.) Timmy and Jimmy decide to save their money after shoveling their neighbors’ driveways.

* **Timmy started off with $8 dollars from his savings, and charges his customer’s $9 for each driveway he shoveled.**
* **Jimmy began his savings by charging $10 for each driveway he shoveled.**
1. Fill in the table to show how much each boy would save after shoveling 10 driveways.

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Driveways****Shoveled** | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| **Timmy’s savings** |  |  |  |  |  |  |  |  |  |  |  |
| **Jimmy’s savings** |  |  |  |  |  |  |  |  |  |  |  |

1. Write an equation that represents the relationship between the amount of money, ***m***, each boy has in their savings after shoveling ***d***driveways.

Timmy: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Jimmy: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Graph each equation. Use a different color to graph the data for each boy. (Be sure to label the axes!)



1. Will the boys ever have the same amount of money at the same time? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Explain your reasoning. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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