I am a BRIGHT MATHEMATICIAN! I will strive to do my BEST! In striving to do my BEST, I will find SUCCESS!!!

Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_ Class: \_\_\_ Team: \_\_\_\_\_\_ Student #:\_\_

**Proportional Reasoning and Slope Test Review**

**Directions: Show all of your work before using the calculator. Circle the letter of the correct**

**answer.**

|  |  |
| --- | --- |
| 1. The following two parallelograms are similar. Use proportions and cross products to find the missing dimension. | a. 8 b. 10.5  c. 2 d. 5.33  **Show work:** |
| 2. Are the figures below similar? Why or why not? | **a**. Yes, because the corresponding angles are congruent and the corresponding sides are proportional.  **b**. No, because the corresponding angles are congruent but the corresponding sides are not proportional.  **c**. No, because the corresponding sides are proportional but the corresponding angles are not congruent.  **d**. No, because the corresponding angles are not congruent and the corresponding sides are not proportional.  **Show work:** |
| 3. A 6-ft adult has a shadow 3.6 ft long. How long is the shadow of a 5-ft child standing next to the adult? | a. 3.6 ft b. 2.6 ft  c. 4 ft d. 3 ft  **Show work:** |
| 4. Alex’s mother took a picture of him receiving his diploma at graduation. She is very proud of Alex’s accomplishment and wants to have the photo enlarged so she can hang it on the wall of her office. If the photo has dimensions 3.5 inches by 7 inches and the scale factor is , what will be the dimensions of the enlargement? | a. 11.2 inches by 22.4 inches  b. 11.2 inches by 11.2 inches  c. 5.6 inches by 11.2 inches  d. 5.6 inches by 22.4 inches  **Show work:** |
| 5. A map of Utah has a scale of 1 cm : 30 mi. The border of Utah and Wyoming measures about 3.7 cm. How long is the actual border of Utah and Wyoming? Round the answer to the nearest ten miles. | a. 100 mi b. 90 mi  c. 80 mi d. 110 mi  **Show work:** |
| 6. Lisa and Susan are each driving to college for the first time. They look at a map to find out how far they have to drive. On the map, Lisa measures the distance to be 3.5 inches. How many miles do they have to drive if the map scale is 1 in. = 60 mi? | a. 210 miles b. 20 miles  c. mile d. 420 miles  **Show work:** |

*Determine the* ***slope*** *of the line for each of the following:*

|  |  |  |
| --- | --- | --- |
| 7. The line shown on the coordinate plane.  m = \_\_\_\_\_\_\_ | 8. The linear equation:  y = x - 2  m = \_\_\_\_\_\_\_ | 9. The linear equation:  y = x + 5  m = \_\_\_\_\_\_\_ |

*For each of the problems below:*

*1) Determine the slope and y-intercept of each equation.*

*2) Graph each equation using the slope and y-intercept.*

|  |  |
| --- | --- |
| 10. y = - 4  m = \_\_\_\_  b = \_\_\_\_ | 11. y = -x + 3  m = \_\_\_\_  b = \_\_\_\_ |

|  |  |
| --- | --- |
| 1. Paco has two job offers at Burger Town and wants to take the job with the highest pay. The pay scale for cook is shown in the graph. The pay scale for taking customer orders is given by the boxed equation where P is the pay, and h represents the number of hours worked. | |
| [image] | |  | | --- | | S = 8h |   1. What is the equation that is represented by the graph? How do you know? Use complete sentences to prove how you determined your answer.  2. Which job offers the highest pay, and what is the hourly rate for that job? |

1. y = 2x + 1 1**4**. y = - ¼ x-2 1**5**. y = 3x - 3

m = \_\_\_

y-intercept: (0, )

m = \_\_\_

y-intercept: (0, )

m = \_\_\_

y-intercept: (0, )

