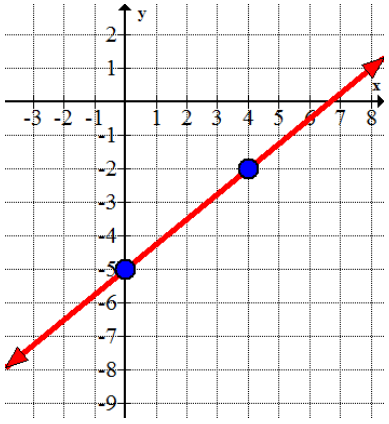
Name Key Period A B C D E F Date

MODULE 2, TOPIC 1 TEST REVIEW

1. Use the following graph to answer the questions below:



a. Is the relationship proportional or non-proportional?

non-proportional

b. How can you tell? The line does not go through the origin (0,0)

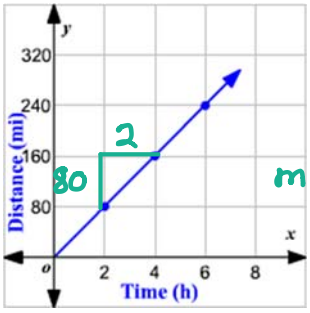
2. When graphed, which equation will have the smallest rate of change? Explain your answer choice.

a. y= 10x b. y= 7x c. y= 0.8x d. y= 0.4x

I know this because y= 0.4x has the smallest slope of 0.4 (smallest rate of change)

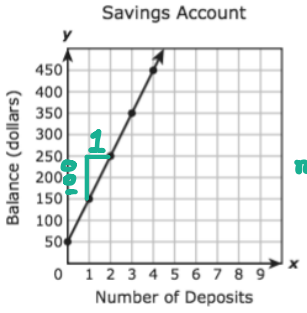
3. Find the rate of change shown in each graph.

a.



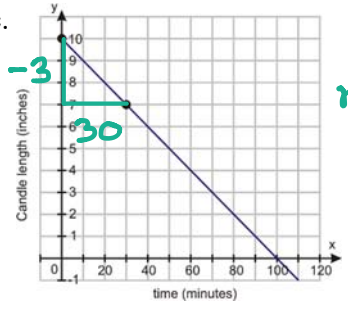
$m = \frac{80}{2} = \frac{40}{1}$

b.



$m = \frac{100}{1}$

c.



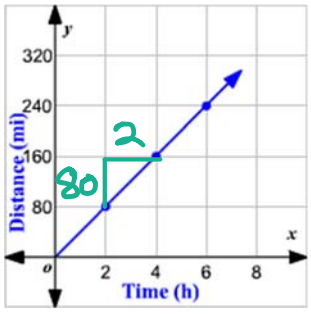
$m = \frac{-3}{30} = \frac{-1}{10}$

Rate of Change: $\frac{40 \text{ mi}}{1 \text{ hr}}$

Rate of Change: $\frac{\$100}{1 \text{ deposit}}$

Rate of Change: $\frac{-1 \text{ inches}}{10 \text{ minutes}}$

4. What is the equation of the line shown below?



y= 40x

$m = \frac{80}{2} = \frac{40}{1}$

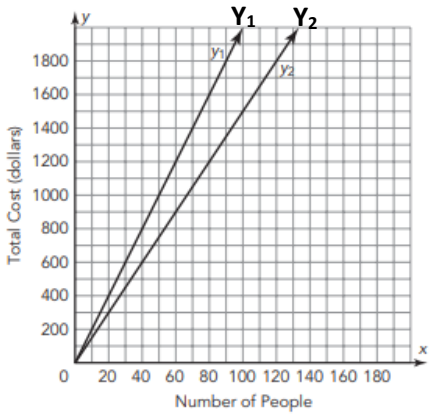
5. Which of the following equations represents a proportional relationship? Explain your answer.

a. $y = 2x + 7$ b. $y = 4x$

c. $y = 4x + 2$ d. $y = x + 1$

How do you know? The equation is in the form $y=mx$. The graph will go through (0,0).

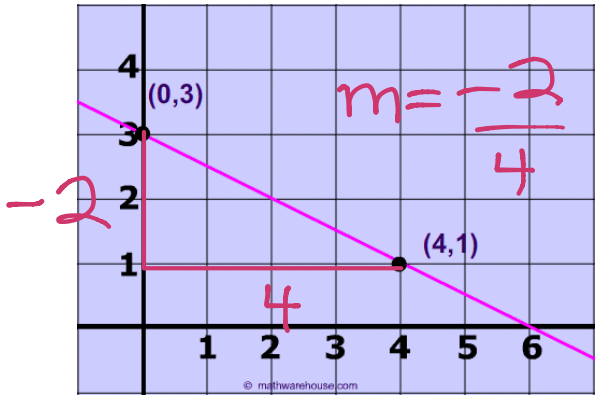
6. Which line on the graph has the greatest rate of change? Explain your answer.



Y_1 or Y_2

I know this because Y1 is steeper (higher slope).

7. Using the graph shown, which represents the slope when using the idea of similar triangles? Select all that apply.



a. $\frac{1}{2}$

b. $\frac{2}{4}$

c. $-\frac{1}{2}$

d. $-\frac{2}{4}$

8. For the following questions, answer "T" for true and "F" for false.

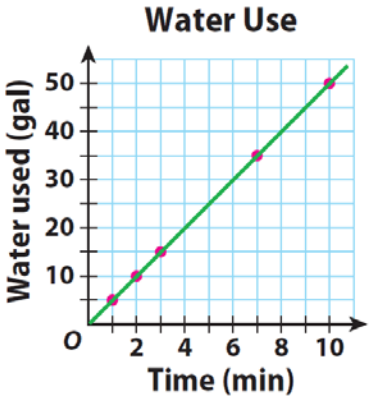
T a. A proportional relationship always goes through the origin (0,0).

F b. Linear relationships are always proportional.

F c. Proportional relationships are non-linear.

F d. Non-proportional relationships are always non-linear.

9. Which statement correctly describes the relationship shown in the graph?



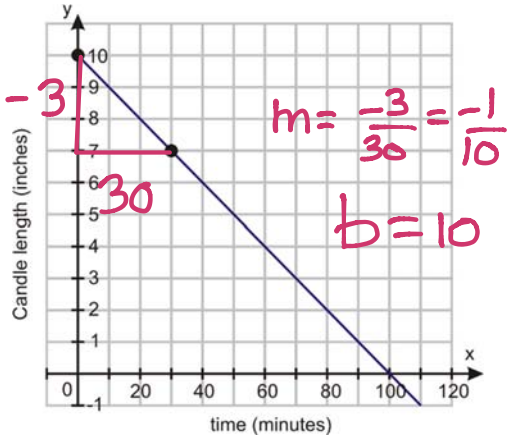
a. The relationship is linear and non-proportional.

b. The relationship is linear and proportional.

c. The relationship is non-linear and non-proportional.

d. The relationship is non-linear and proportional.

10. Use the graph below to answer the following questions:



a. Is the graph proportional or non-proportional? non proportional.

b. How can you tell? The line does not go through (0,0).

c. What is the equation of the line? $y = -\frac{1}{10}x + 10$

11. The line shown on the graph is represented by y = x.

a. Create another line that is translated **down** 1 unit from y = x.

b. What is the equation of the line from "a"?

y = x - 1

c. Create another line that is translated **up** 2 units from y = x.

d. What is the equation of the line from "c"?

y = x + 2