

Problem of the Day:

Rapunzel has really long hair right now, and it grows magically at a constant rate.

1. What is the slope of the table?

What does it represent in the context of the story?

Time (hrs)	Hair Length (inches)
4	405
18	510
20	525

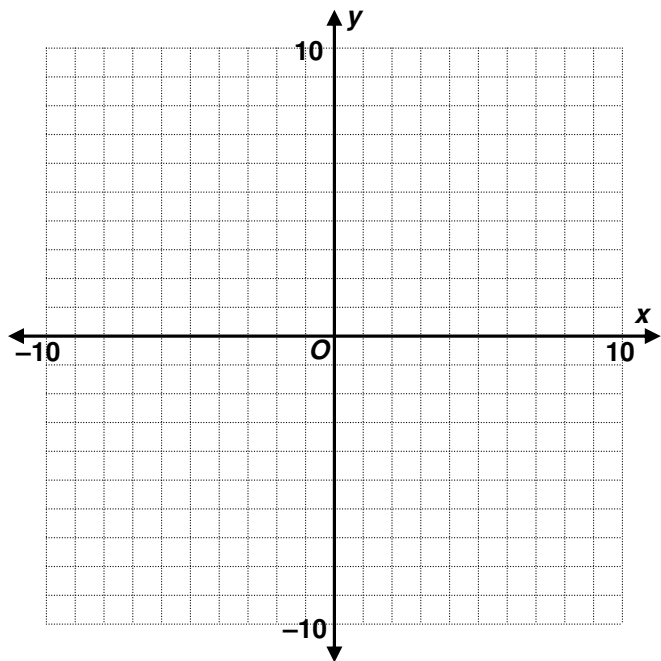
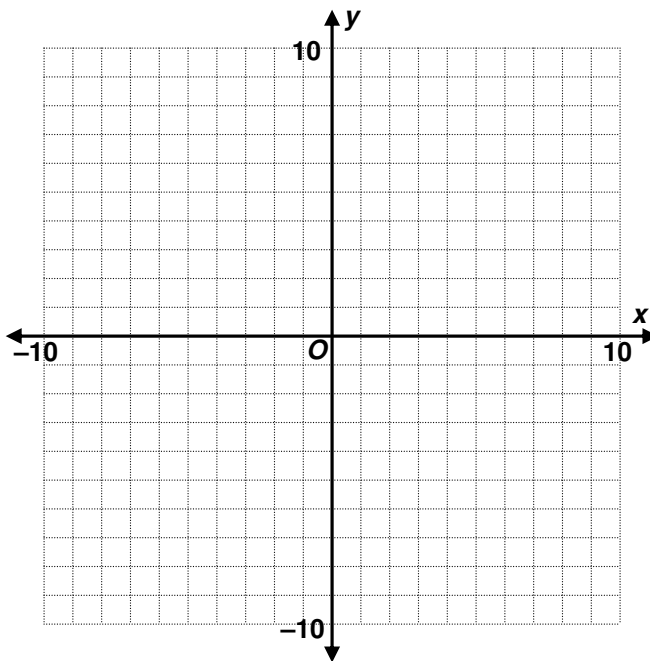
2. Extend the table to find the y -intercept.

What does it represent in the context of the story?

3. Write an equation that calculates the length of hair h after any number of hours t .

Purpose Statement:**Classwork:**

1. Answer #1 on the coordinate grids below:



Linear Relationships Unit Test Review

1. Graph and label each of the equations on the back of your POD paper. Plot enough points to clearly show the pattern across the grid. Use a straight edge and put arrows on the ends.

A. $y = \frac{4}{5}x - 3$

D. $y = x - 9$

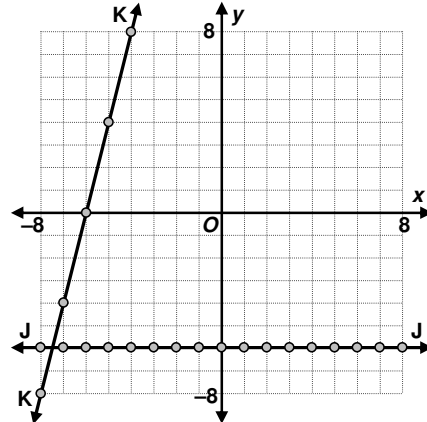
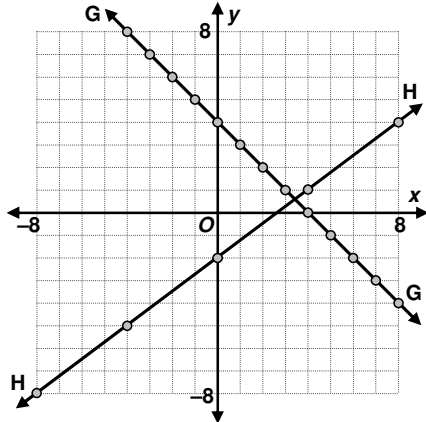
B. $y = 2 - 5x$

E. $y = -\frac{2}{7}x + 4$

C. $y = 1$

F. $y = 3x + 8$

2. For each graph, complete a table and then write an equation. Show your work.



- a. Write an equation for each line. Show your work.

- b. Complete the table for each graph.

Graph G	
x	y
-4	
-3	
-2	
-1	
0	

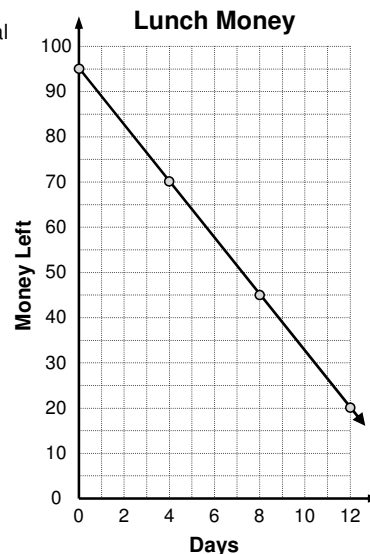
Graph H	
x	y
-8	
-4	
0	
4	
8	

Graph J	
x	y
-1	
0	
1	
2	
3	

Graph K	
x	y
-8	
-7	
-6	
-5	
-4	

3. Flynn has money set aside for buying lunch each day at the local teriyaki restaurant.

- Find the y -intercept of the line. What does it represent in the context of the story?
- Find the slope of the line. What does it represent in the context of the story?
- Write an equation for the amount of money left m after any number of days d .
- Use the graph to estimate how much money Flynn will have left on day 10. Show your work on the graph.



4. The following tables show linear relationships. Write an equation for each. Show your work!

a.

x	y
0	4
5	1
10	-2
15	-5

b.

x	-3	0	3	6
y	-9	-5	-1	3

c.

x	6	8	10	12
y	-6	-7	-8	-9

d.

x	y
-4	-21
8	-12
24	0
28	3

5. Does the table represent a linear relationship? Clearly explain how you know.

a.

x	-2	0	2	4
y	-7	-4	-1	2

b.

x	y
15	17
20	15
25	13
30	11

c.

x	y
3	24
6	26
12	30
20	36

d.

x	-1	1	4	10
y	-5	7	25	61

- 6.

Number of Hours	Elves Left
5	18
8	6
9	2

- a. Write an equation that matches the table.

- b. Write a story to match the table, then title the table.

7. Pascal has 15 jelly beans, but wants more! He can buy packs of jelly beans that each have 36 jelly beans. If he wants 200 jelly beans, how many packs does he need to buy?

Write and solve an algebra equation. Show your work.

8. Complete the table to match each equation. Show your work.

$$y = 9x - 15$$

x	y
0	
1	
2	
3	

$$y = 74 - 7x$$

x	y
-2	
3	
8	
10	

$$y = \frac{2}{9}x + 10$$

x	y
-18	
9	
36	
90	