

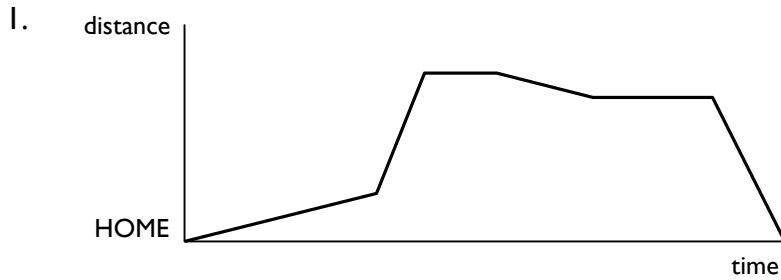
Algebra I

Unit 4, Lesson 10: More graphing situations by making a table

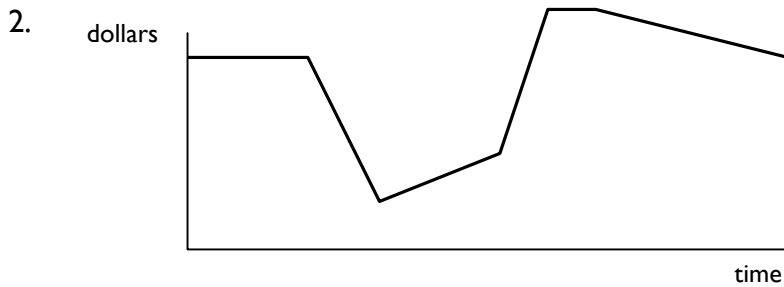
Objectives		Unit Skills
<ul style="list-style-type: none">- Given a verbal situation, students can write a linear function, make a data table, plot the table, and use the function/graph to extrapolate.- Students can find the rate of change on a graph		
Materials and Handouts		Homework
<ul style="list-style-type: none">- Do Now and extra rate of change practice. Answers in Keynote.- Matching races to equations handout- Leveled individual practice (front/back)- Homework #4-10- Skills Test #6 retake, two versions		#4-10: More Graphing Practice
Time	Activity	
15 min	Do Now: Review based on skills test #6 <ul style="list-style-type: none">- Matching events to sections of a linear graph- Calculating rate of change of a linear graph- Review answers as needed	
10 min	Class Work: Students at the board <ul style="list-style-type: none">- Students turn to the back side of the Do Now, which has six linear graph sections. For each problem, give the class about 30 seconds to find the rate of change, and then call a student to the board to present the solution.	
15 min	Pair Work: Matching activity <ul style="list-style-type: none">- Students read several verbal situations and must match them up to the appropriate linear models.- At the end of the 15 minutes, they must hand in their answers to be graded.	
25 min	Individual Work: Graphing practice <ul style="list-style-type: none">- Given a verbal situation, students must write the equation, complete a data table, and then graph the result. They can work on either basic or proficient level problems.	
15 min	Skills Test #6 Retake <ul style="list-style-type: none">- Retake skills test #6 because most students did poorly the first time.	

Skills Test #6 Most Missed Concepts

Interpreting a Graph: Match the appropriate letter to each section of the graph.

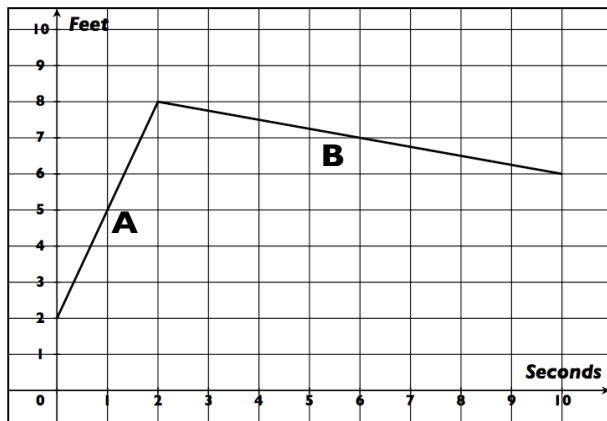


- A** = Stopping for a shorter time
- B** = Driving away from home quickly
- C** = Driving home quickly
- D** = Driving away from home slowly
- E** = Stopping for a longer time
- F** = Driving home slowly



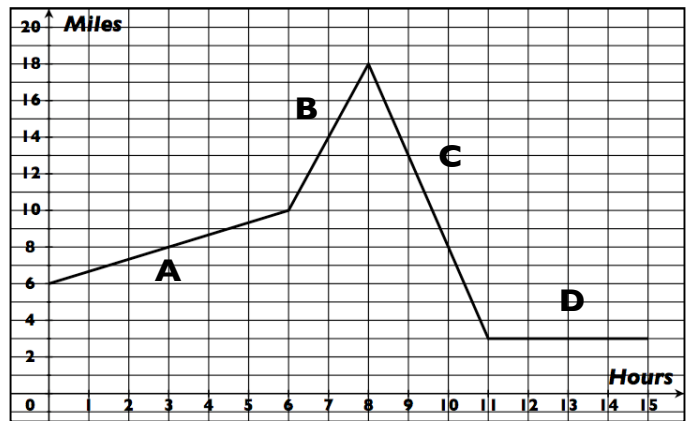
- A** = Spending money quickly
- B** = Not earning or spending for a short time
- C** = Earning money slowly
- D** = Not earning or spending for a long time
- E** = Earning money quickly
- F** = Spending money slowly

Calculating Rate of Change: Find the rate of change of each section of the graph. Include units.



A:

B:



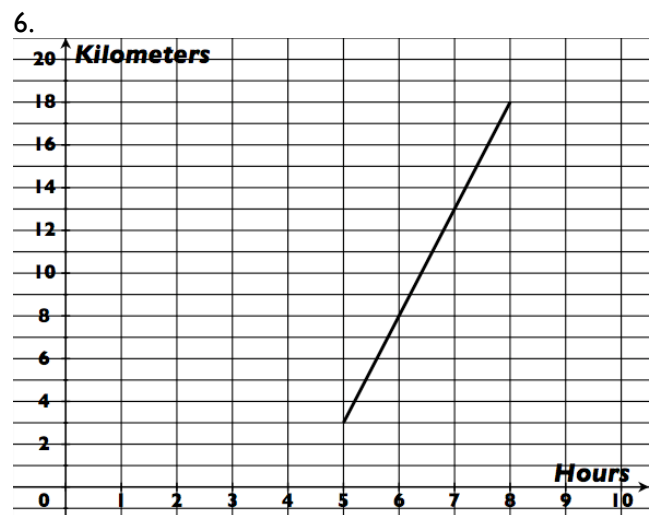
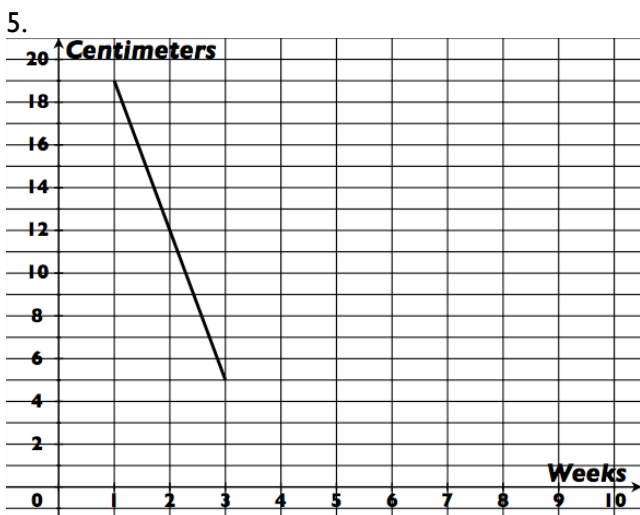
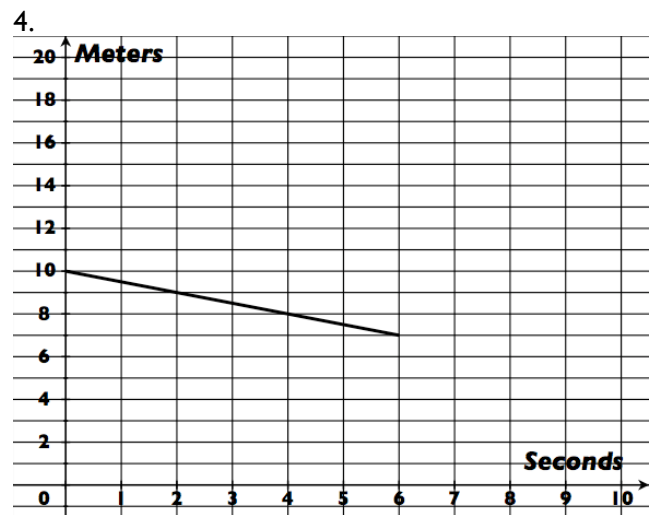
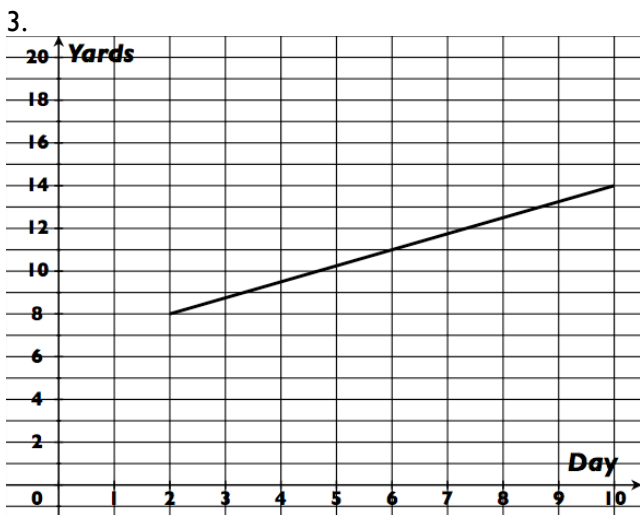
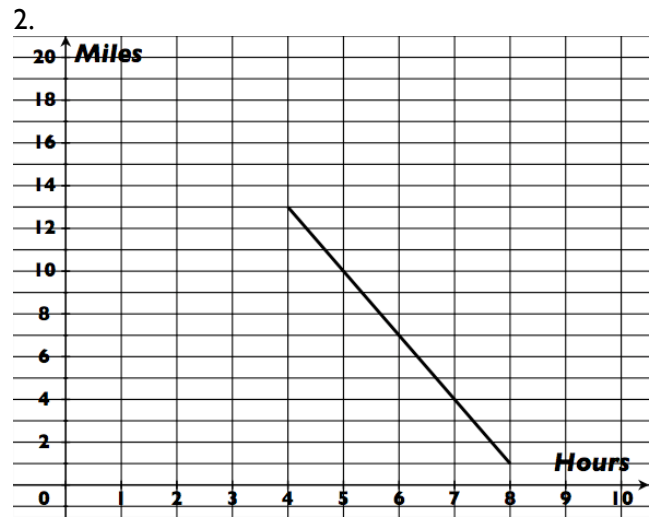
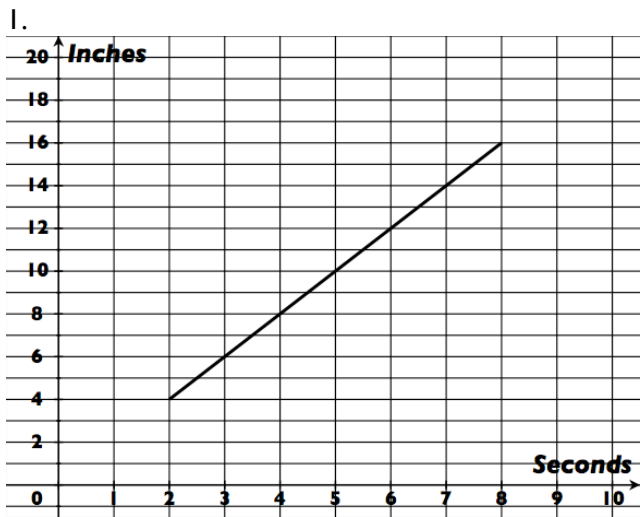
A:

B:

C:

D:

Find the rate of change of each graph. Include units.



Match Races with Their Equations

Equation	Situation
	Chippy the Cheatin' Chipmunk started at the 4-foot line, but jumped on a motorcycle and sped toward the finish line at a speed of 12 feet per second.
	Zippy the Zebra started the race at the 12-foot line, and ran at a rate of 4 feet per second up toward the finish line.
	The Tortoise got an 8-foot head start, and ran up at a rate of 3 feet per second toward the finish line.
	Chester the Cheetah started 3 feet from the starting line, and ran up toward the finish line at the amazing speed of 8 feet per second.
	Peter the Piñata started at the 3-foot line, and ran 8 feet per second down toward the starting line. Who knew piñatas could run so fast?
	Loopy the Loon started at the 5-foot line, and moved back down toward the starting line at a rate of $\frac{1}{2}$ foot per second.
	Billy the Badger started $\frac{1}{2}$ a foot away from the starting line and ran up toward the finish line at a rate of 5 feet per second.
	Franco the Freshman started with the Tortoise at the 8-foot line, but ran 3 feet per second down toward the starting line.
	The Hare started at the 12-foot line and ran down toward the starting line at a rate of 4 feet per second.
	Sammy the Snail had a 5-foot head start, but only ran toward the finish line at a rate of $\frac{1}{2}$ foot per second.

Equation Choices

A: $F = 8 + 3s$
B: $F = 12 - 4s$
C: $F = \frac{1}{2} + 5s$
D: $F = 3 + 8s$
E: $F = 12 + 4s$

F: $F = 5 + \frac{1}{2}s$
G: $F = 3 - 8s$
H: $F = 4 + 12s$
I: $F = 8 - 3s$
J: $F = 5 - \frac{1}{2}s$

Graphing Situations Practice

Basic Level

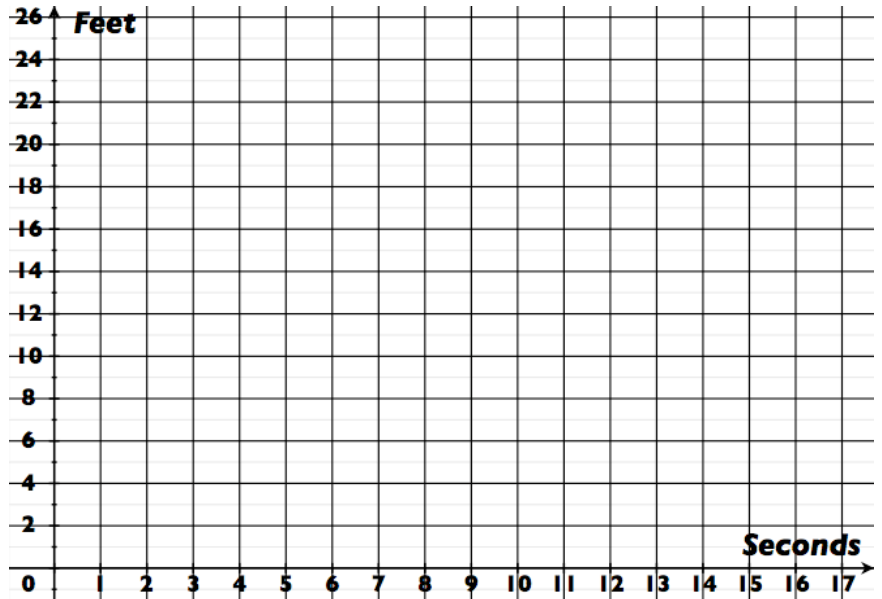
1. Alexandria started at the 4-foot line. She ran up toward the finish line at a rate of 2 ft/s.

Write an equation:

$$F = \underline{\quad} + \underline{\quad} \underline{\quad}$$

Make a data table and graph:

S	F
0	
1	
2	
3	
4	
5	



How far will Alexandria be after: **8 seconds?**

11 seconds?

60 seconds?

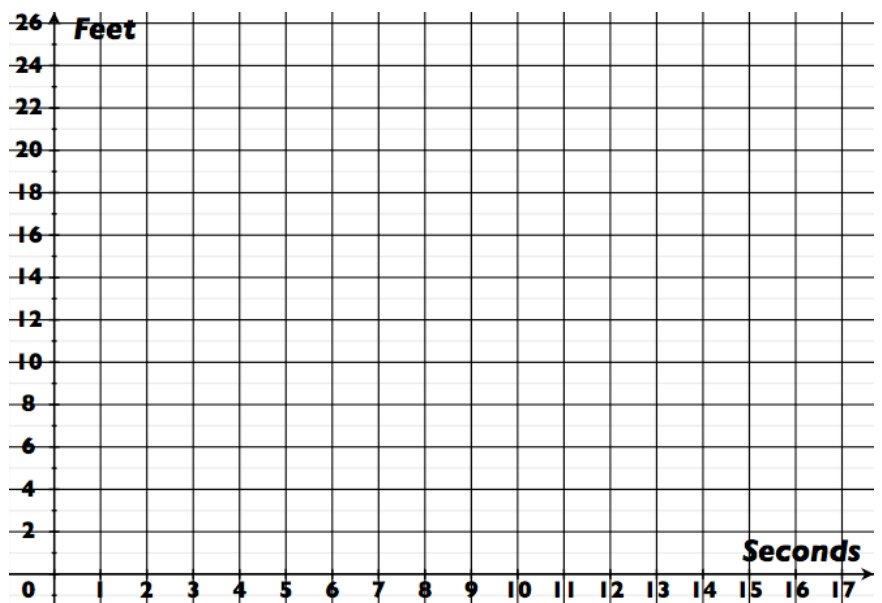
2. Stephanie started at the 10-foot line. She walked up toward the finish line at a rate of $\frac{1}{2}$ ft/s.

Write an equation:

$$F = \underline{\quad} + \underline{\quad} \underline{\quad}$$

Make a data table and graph:

S	F
0	
1	
2	
3	
4	
5	



How far will Stephanie be after: **9 seconds?**

14 seconds?

80 seconds?

Proficient Level

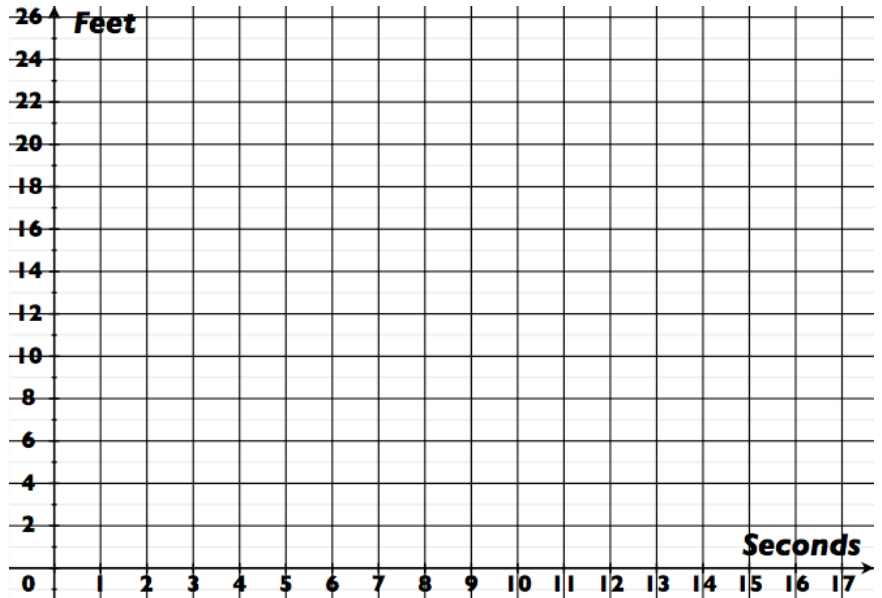
1. Daniela started at the 2-foot line. She ran **up** toward the **finish line** at a rate of 2.5 ft/s.

Write an equation:

$$F =$$

Make a data table and graph:

S	F
0	
1	
2	
3	
4	
5	



How far will Daniela be after: **8 seconds?**

28 seconds?

59 seconds?

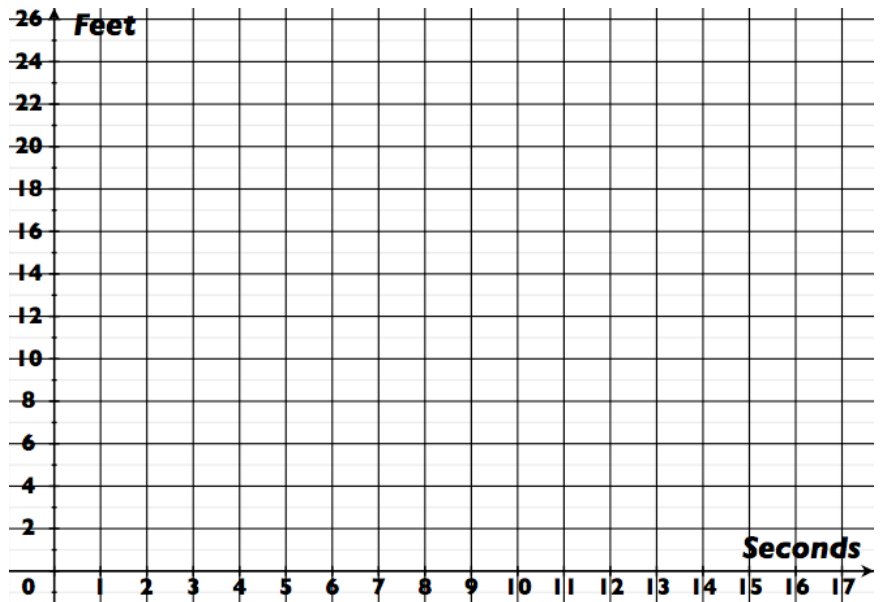
2. Cynthia started at the 24-foot line. She walked **down** toward the **starting line** at a rate of $\frac{1}{2}$ ft/s.

Write an equation:

$$F =$$

Make a data table and graph:

S	F
0	
1	
2	
3	
4	
5	



How far will Cynthia be after: **8 seconds?**

21 seconds?

48 seconds?

More Graphing Practice

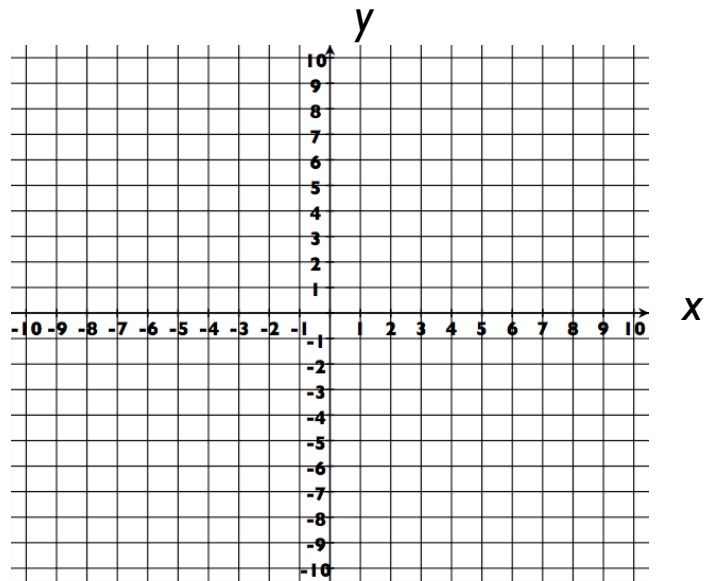
(Do Part A or Part B)

Part A

Complete the data table and graph the equation. Label the line with its equation.

$$y = 3 + \frac{1}{2}x$$

x	y
-4	
-2	
0	
2	
4	
6	
7	



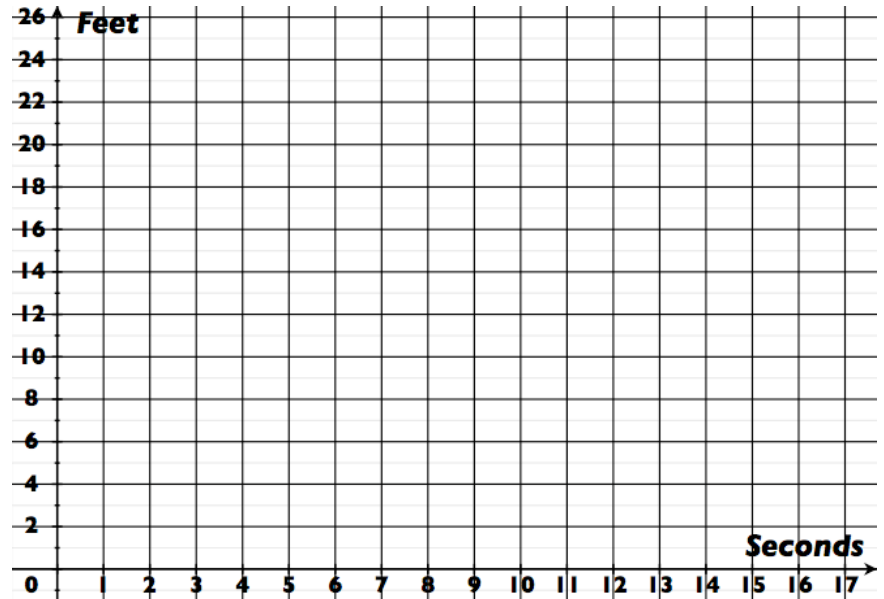
Albert started his race at the 8-foot line. He ran up toward the finish line at a rate of 3 feet per second.

Write an equation:

$$F = \underline{\quad} + \underline{\quad} \underline{\quad}$$

Make a data table and graph:

S	F
0	
1	
2	
3	
4	



How far will Albert be after:

6 seconds?

12 seconds?

42 seconds?

Part B

Gerelly started her race at the 2-foot line. She ran up toward the finish line at a rate of $\frac{3}{4}$ foot per second.

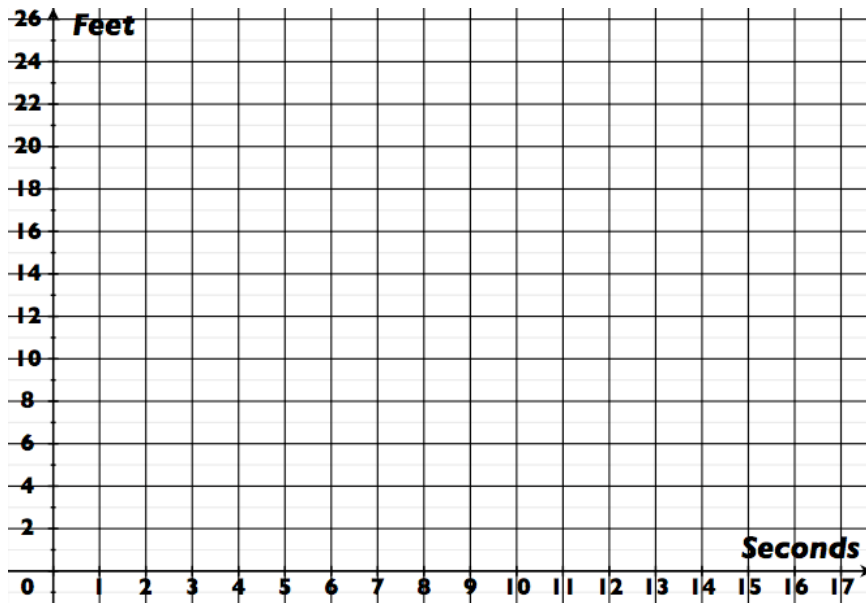
Write an equation:

F =

Make a data table and graph:

S	F
0	
2	
4	
6	
8	

S	F
10	
12	
14	
16	
17	



How far will Gerelly be after:

5 seconds?

60 seconds?

82 seconds?