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Writing Equations and Graphing Practice

1. Write an equation for each of the following and use that equation to answer the questions.
    a. A dog walks at a rate of 2 ft per second. f=ft and s=seconds

        i. How long would it take the dog to walk 84 ft?

    b. Adam is running a bake sale. It cost him $25 to make everything and he is selling each item for $1.50. Write a profit equation. p=profit and i=item

        i. How many items does he need to sell to make a profit (above $0)

        ii. If he sold 145 items, how much money did he make?

    c. Frank is building a treehouse for his friend. He charges a flat fee of $300 and then an additional $20 per hour. d=dollars and h=hours

        i. If he worked 15 hours, how much money did he make?

        ii. How long would it take him to make $620?

    d. A car is driving at 75 miles per hour. m=miles and h=hours

        i. How many miles will they travel in 7 hours?

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e. A plant is 8 inches tall and grows 3 inches each week. i=inches and w=weeks.

   i. How tall will the plant be in 5 weeks?

   ii. How long will it take the plant to be 38 inches?

f. Big Busses rents their vans out for $400 plus $5 per mile. d=dollars and m=mile

   i. How much would it cost to rent a can if you traveled 15 miles?

g. It takes Tom 24 minutes to make each beam. m=minutes and b=beams

   i. How long will it take him to make 15 beams?

h. Frances charges $14 per horse ride plus an additional $10 per hour. d=dollars and h=hourse

   i. If someone rode for 5 hours, how much would it cost?

   ii. If someone spent 44, how many hours did they ride?

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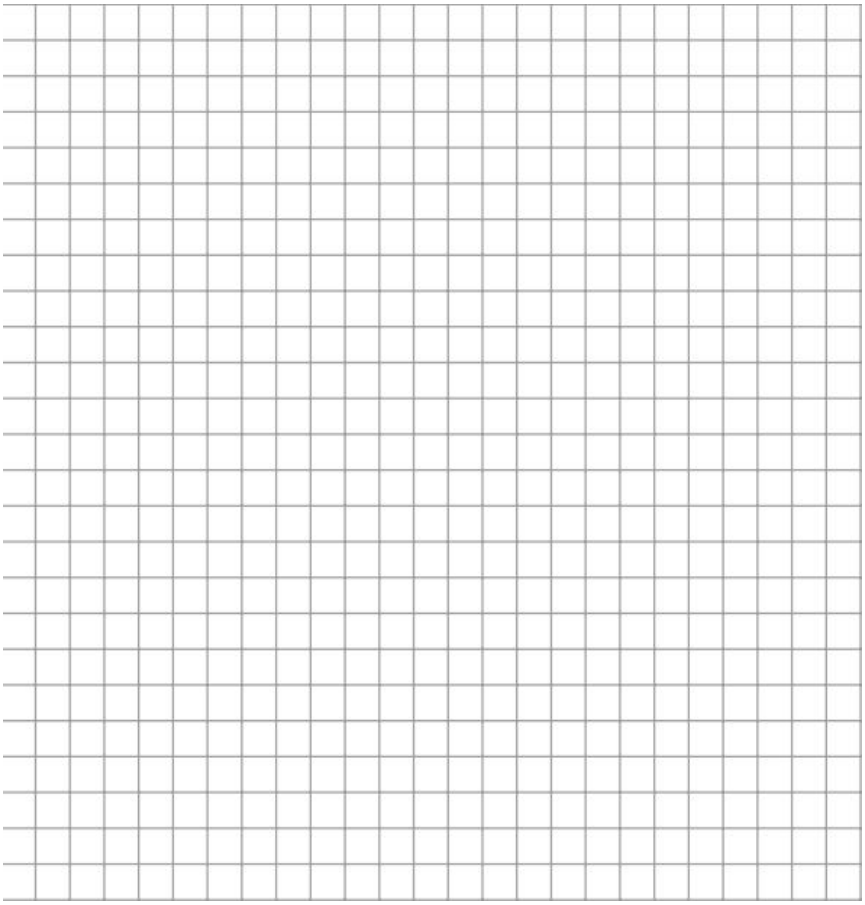
2. Beatrice and Tom decide to go on a road trip to the Grand Canyon. They want to know how long it will take them to drive the 600 miles if they travel at an average of 55 miles per hour.
    a. Complete the table with the variables time (hrs) and distance (miles)
    b. Create a graph for the table

Time (hrs)	Distance (miles)
0	
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	



Answer the questions on the following page.

C. Look for patterns relating distance and time in the table and graph. Write a rule in words for calculating the distance traveled in any given time.

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D. Write an equation for your rule, using letters to represent the variables.

E. Tell how far you could travel in the given time. Explain how you can find each answer by using the equation.

a. 3 hrs
b. 4.5 hours
c. 6.25 hours

F. Find how much time it will take the students to reach these miles on their route.

a. 500 miles
b. 450 miles
c. 300 miles

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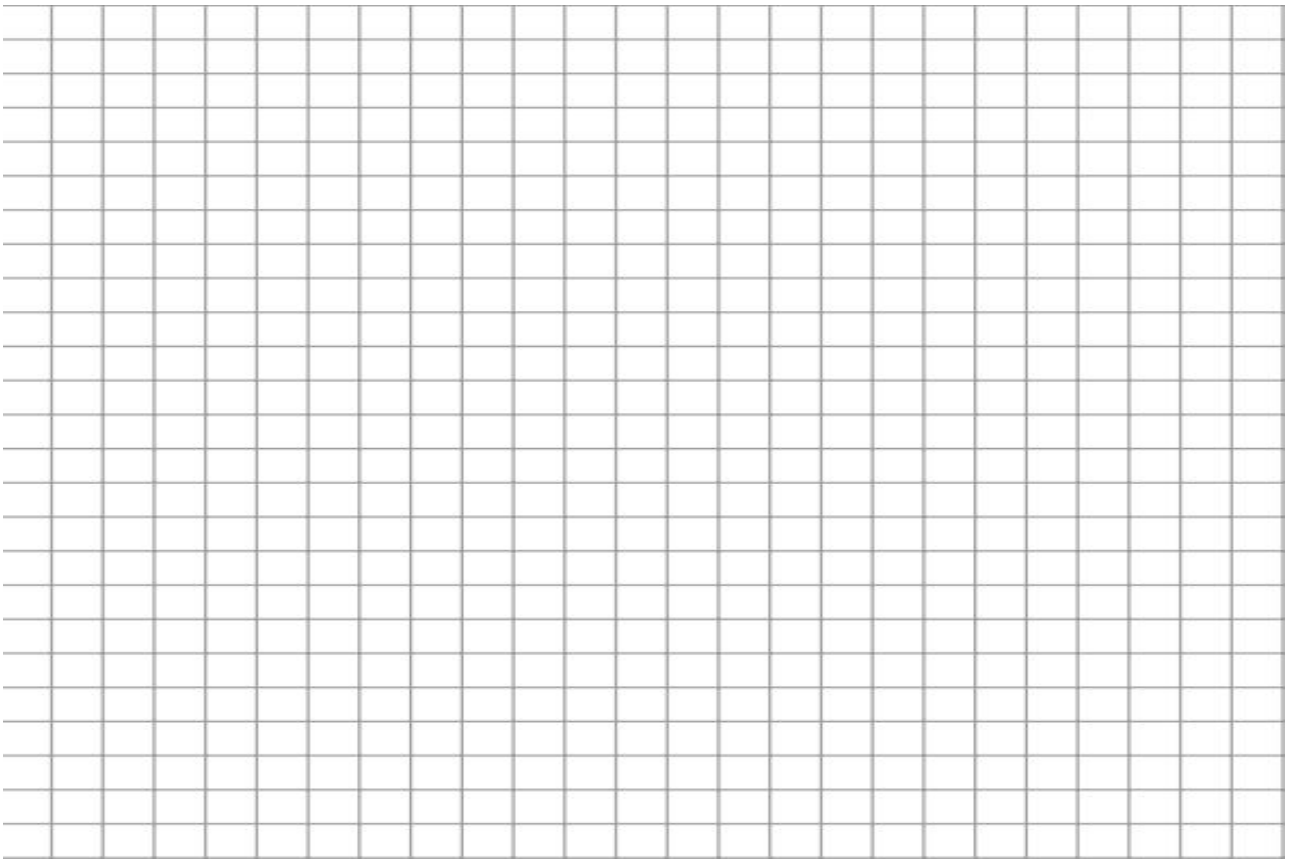
3. Rick is measuring the points scored (total) for three Blazer basketball players, Cj Mc
   a. Complete the following table and assume that they grow at a consistent rate.

Games Played	Cj Mccollum	Damian Lillard	Jusuf Nurkic
0	0 points	0 points	0 points
1	23 points	27 points	14 points
2			
3			
4			
5			
6			
10			
12			
15			

   b. Create a graph for all three players. Use a different color for each. (Create one graph and graph all players on that graph).



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c. Look for patterns relating to games played and points scored. Write a rule for calculating the total points at any number of games played.

d. Write an equation for your rule, using letters to represent the variables.

e. For each player, tell how many points each would have. Explain how you can find each using the table.
   i. 3 games
   ii. 4.5 games
   iii. 10 games
   iv. 12.5 games

f. For each player, find how many games it would take for them to have the following total points.
   i. 100 points
   ii. 250 points
   iii. 300 points
   iv. 500 points