Bike Race

Cheeky Charlie and Engineer Erik decide to take up bicycling as a recreational hobby. They start training on a 150-mile course. Charlie's rate is 15 miles per hour. Erik's rate is 10 miles per hour, so Charlie gives him a head start of 15 miles.

1.   Write an equation for each boy representing the relationship between the number of hours and on the distance each boy has traveled.

Cheeky Charlie _____Engineer Erik_____

2.   Make a table to show the relationship between the number of hours they bicycled and their total distance on the course.
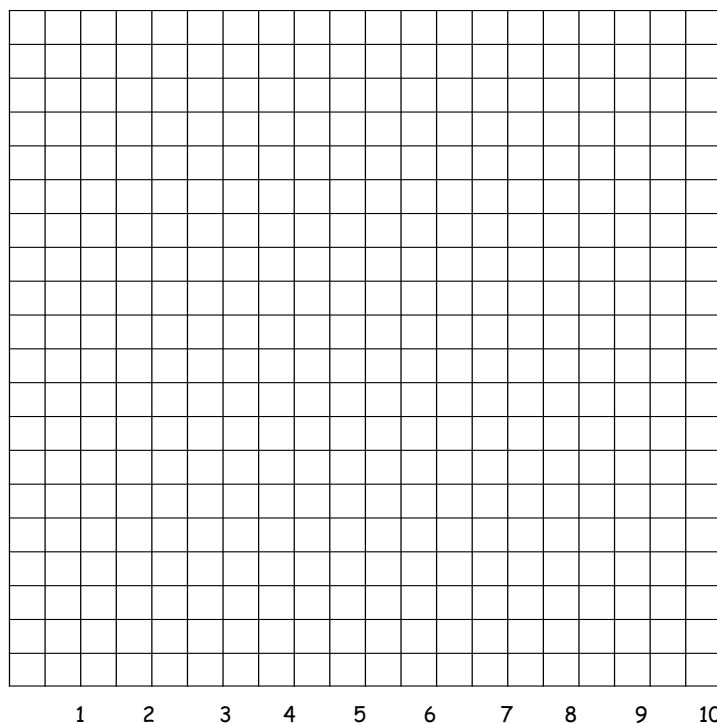
Cheeky Charlie

Hours	Process	Distance
0		
1		
2		
3		
4		

Engineer Erik

Hours	Process	Distance
0		
1		
2		
3		
4		

3.   Graph the equations using the graph below. Be sure to label the independent and dependent variable.

1   2   3   4   5   6   7   8   9   10

4.   Describe the slope of each equation and explain what the slope represents in terms of this situation?

5.   Describe the y-intercept of each equation and explain what the y-intercept represents in terms of this situation?

6.   Which boy will finish the race first? Explain your answer.

7.   What is the solution to this system of equations? _____

       A. What does this solution represent on the graph? What does the solution represent in this situation?

8.   Which boy's graph includes the point (6, 75)? What does this point represent in terms of the bike race?

9.   If Charlie intended to bike the full course, how long would it take him to do so?

10.   Charlie decided to only give Eric a head start of 5 miles. How does this affect the situation and the solution to the system?