Name: _____

Solve the following problems **without a calculator**. You _MUST_ show your work. **_NO WORK = NO CREDIT._**

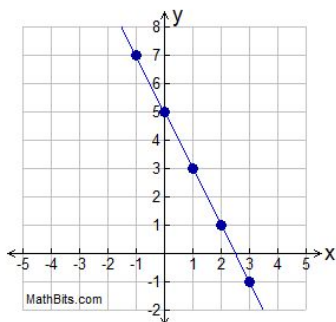|	
1. The graph shows the distance of a car from home as a function of time. Describe what a person watching the car may be seeing.	2. The equation of Function A is y = 5/3x + 4. Function B contains the points in the table below. Which function has a smaller slope? <table><tr><th>x</th><th>y</th></tr><tr><td>6</td><td>12</td></tr><tr><td>11</td><td>19</td></tr></table>
3. Write the linear equation of the table. <table><tr><th>x</th><th>y</th></tr><tr><td>-4</td><td>-5</td></tr><tr><td>4</td><td>1</td></tr><tr><td>8</td><td>4</td></tr></table>	4. Budget car rental charges $12.99 to rent a car for the weekend and $0.49 per mile driven. The total cost of renting a car for a certain number of miles at Fox Rental Company is shown in the table. Which company has a cheaper flat rate? <table><tr><th>x</th><th>y</th></tr><tr><td>0</td><td>15.99</td></tr><tr><td>15</td><td>22.74</td></tr></table>
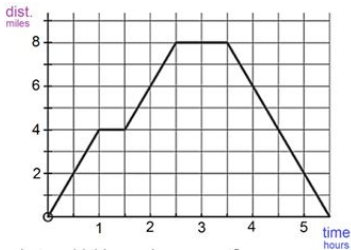
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1. Write the equation of the line.	2. A car rental company charges a daily fee, plus an additional fee for each mile driven. Tyree rented a car, drove 100 miles, and was charged $48.00. Jen rented a car from a different company that uses the equation y=0.25x+25 to determine the cost, y, to rent a car for a day after x miles driven. Who paid more money per mile and by how much?
3. The equation of Funcion A is y = 3x - 18. Function B contains the points in the table below. Which function has a larger y-intercept? <table><tr><th>x</th><th>y</th></tr><tr><td>-3</td><td>-19</td></tr><tr><td>3</td><td>-17</td></tr><tr><td>9</td><td>-15</td></tr></table>	4. Elena and Lin are training for a race. Elena runs her mile a constant speed of 7.5 miles per hour. Lin's times are recorded every minute: <table><tr><th>time (minutes)</th><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td></tr><tr><th>distance (miles)</th><td>0.11</td><td>0.21</td><td>0.32</td><td>0.41</td><td>0.53</td><td>0.62</td><td>0.73</td><td>0.85</td><td>1</td></tr></table> Who finished their mile first?

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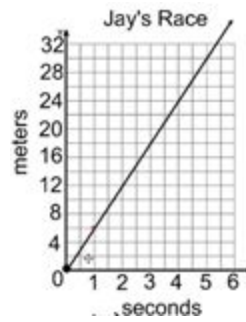|	

1. Which function has the greatest slope? Explain.
 	
  Function 1: $y = x + 2$
 	
  Function 2:
 	
<table><tr><td>x</td><td>-2</td><td>0</td><td>2</td></tr><tr><td>y</td><td>-6</td><td>-3</td><td>0</td></tr></table>
	2. Who ran at a faster pace?
	
	Jay's Race
	
	Nathan's Race
	
	<table><tr><td>Seconds</td><td>Meters</td></tr><tr><td>0</td><td>4</td></tr><tr><td>1</td><td>9</td></tr><tr><td>2</td><td>14</td></tr><tr><td>3</td><td>19</td></tr><tr><td>4</td><td>24</td></tr><tr><td>5</td><td>29</td></tr></table>

3. Tom's Lawn Maintenance company charges a flat fee of $20 for a service call, plus $9.50 per hour to cut grass. Rachel's Lawn Maintenance company uses the table below to determine the total cost of cutting grass. Which company charges more per hour to cut grass? **Rachel's Lawn Maintenance** <table><tr><td>Number of Hours (x)</td><td>Total Cost (y)</td></tr><tr><td>1</td><td>$27.50</td></tr><tr><td>3</td><td>$47.50</td></tr><tr><td>5</td><td>$67.50</td></tr><tr><td>7</td><td>$87.50</td></tr></table>	4. Two car services offer to pick you up and take you to your destination Service A charges 40 cents to pick you up and 30 cents for each mile of your trip. Service B charges $1.10 to pick you up and charges c cents for each mile of your trip. a. Match the services to lines ℓ and m. b. How many miles does each service have to drive in order to cost the same?
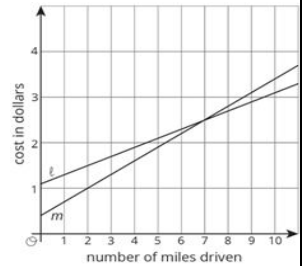
Solve the following problems **without a calculator**. You <u>*MUST*</u> show your work. ***NO WORK = NO CREDIT.***

1. Convert to a fraction.
 	
  a. .08
 	
  b. $.\overline{3}$
 	
  c. $.1\overline{5}$
	2. Express 4/9 as a decimal. Show your work.

3. Solve. Write the answer in lowest terms.
 	
  $.\overline{6} \div \frac{1}{5}$
	4. Solve. Write the answer in lowest terms.
	
	  $.\overline{18} \times \frac{1}{3}$