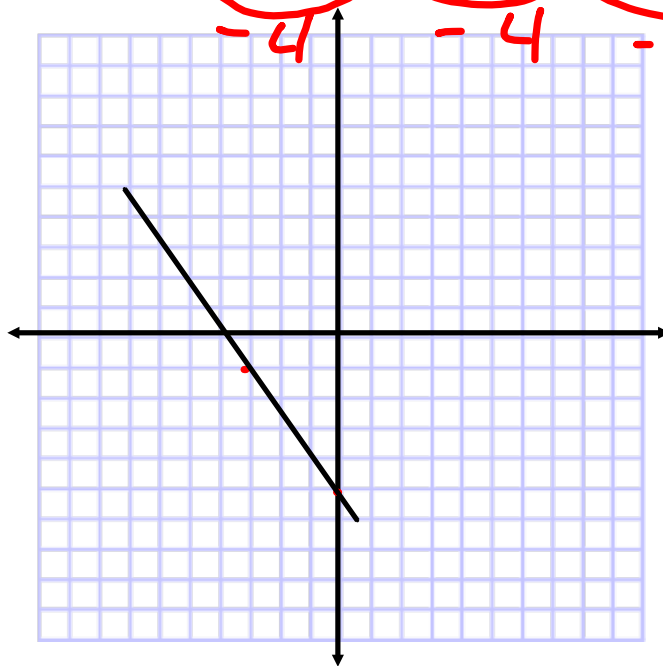


Graph the line  $y = x$

Write an equation for the following table, once you have the equation, graph the line:

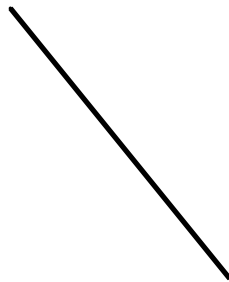
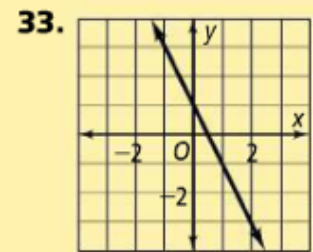
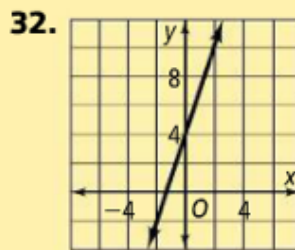
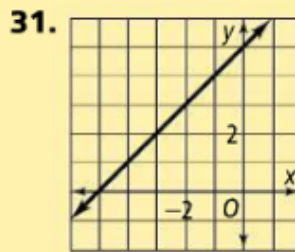
<u>0</u>	x	3	6	9	12
<u>-5</u>	y	-9	-13	-17	-21



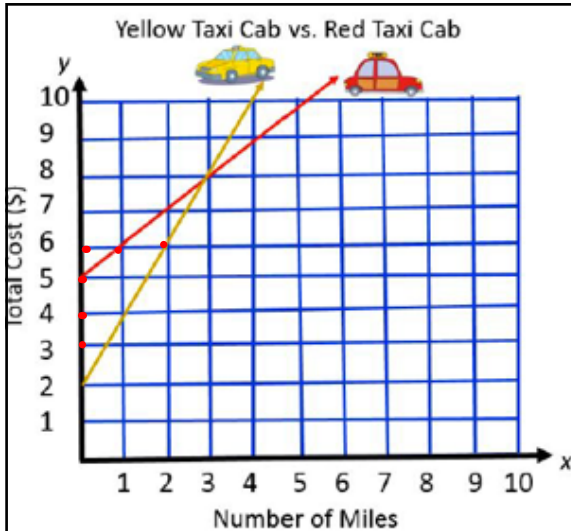
$$y = -\frac{4}{3}(x) - 5$$

# Homework Check:

- |   |   |
|---|---|
| <b>7.</b> 3, 1                              | <b>8.</b> -1, 4                             |
| <b>9.</b> 2, -5                             | <b>10.</b> -3, 2                            |
| <b>11.</b> 5, -3                            | <b>12.</b> -6, 0                            |
| <b>13.</b> 0, 4                             | <b>14.</b> -0.2, 3                          |
| <b>15.</b> $\frac{1}{4}, -\frac{1}{3}$      | <b>16.</b> $y = x - 1$                      |
| <b>17.</b> $y = 3x + 2$                     | <b>18.</b> $y = \frac{1}{2}x - \frac{1}{2}$ |
| <b>19.</b> $y = 0.7x - 2$                   | <b>20.</b> $y = -0.5x + 1.5$                |
| <b>21.</b> $y = -2x + \frac{8}{5}$          | <b>22.</b> $y = -\frac{1}{2}x + 3$          |
| <b>23.</b> $y = 2x - 3$                     | <b>24.</b> $y = -x$                         |
| <b>25.</b> $y = -2x + 4$                    | <b>26.</b> $y = 1.5x - 2$                   |
| <b>27.</b> $y = \frac{5}{2}x - \frac{1}{2}$ |   |



Slope in real life



Write an equation for each taxi cab.

yellow:  $y = 2x + 2$

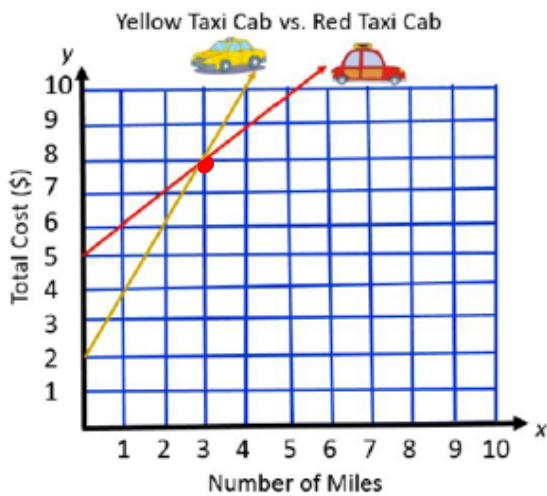
red:  $y = x + 5$

What does the y - intercept mean in the context of this problem?

base start for just getting into taxi

What does the slope (rate of change) mean in the context of this problem?

for every mile it costs \$2  
for every mile it costs \$1



When will the cost of the two cabs be the same?

3 mi they both cost \$8

If you want to travel 13 miles, which cab will be cheaper?

Red cab

How much will it cost for the cheaper cab?

\$18

If you went in the yellow cab, and paid \$50. How many miles did you go?

$$y = 2x + 2$$

$$50 = 2x + 2$$

$$\begin{array}{r} -2 \qquad \qquad -2 \\ \hline \end{array}$$

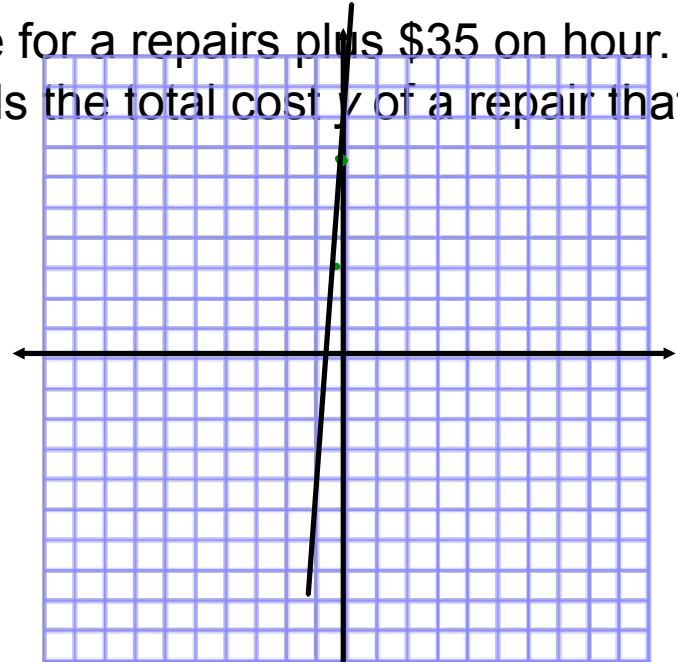
$$\frac{48}{2} = \frac{2x}{2}$$

$$24 \text{ mi} = x$$

A plumber charges a \$65 fee for a repairs plus \$35 on hour. Write an equation that models the total cost  $y$  of a repair that takes  $x$  hours.

$$y = 35x + 65$$

Graph it!



If you the plumber is working 3 hours, use your equation to figure out how much you would pay.

$$\$170$$

If you pay the plumber \$240, use your equation to figure out how many hours he worked.

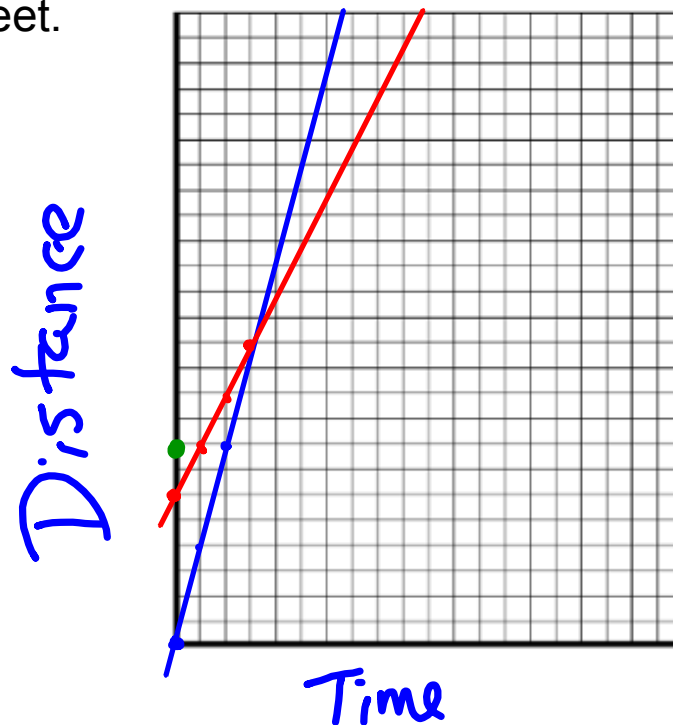
$$240 = 35x + 65$$

$$5 = x$$

Kori, Kenzi and Ali are going to race to the end of the street.

- Ali began at the starting line and ran at a rate of 4 ft per second
- Kenzi got a six foot head start and ran at a rate of 2 ft per second
- Kori rode 3 feet every 2 seconds and got a eight foot head start.

Graph lines for each of the girls. Let  $x$  represent the time and let  $y$  represent the distance in feet.





Write an equation:

Ali:  $y = 4x$

Kenzi:  $y = 2x + 6$

Kori:  $y = \frac{3}{2}x + 8$

How long did it take for Ali to go 27 ft?

$$6.75 \text{ s}$$

$$y = 4x$$

$$27 = \frac{4x}{4}$$

How far did Kenzi run in 9 seconds?

$$24 \text{ ft}$$

$$2x + 6 = y$$

$$2(9) + 6 = y$$

If the race was 18 ft long, who won?

$$\frac{18}{4} = \frac{4x}{4}$$

$$4.5 \text{ sec}$$

$$2x + 6 = 18$$

$$2x = 12$$

$$x = 6 \text{ s}$$

$$\frac{3}{2}x + 8 = 18$$

$$\frac{2}{3} \cdot \frac{3}{2}x = 10 \frac{2}{3}$$

$$x = \frac{20}{3}$$

$$x = 6.6\bar{6}$$

