

SOL HW 4.2

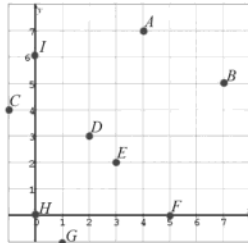
October 1, 2020 8:51 AM

Name: _____

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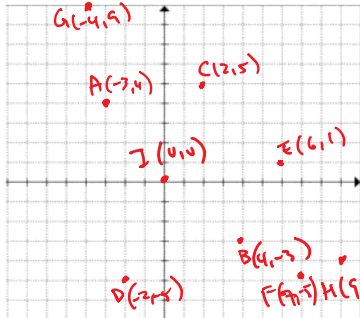
Math 9 HW Section 4.2 Linear Relations:

1. Given the grid below, indicate the coordinates for each of the following points:



A: $(4, 7)$ B: $(7, 5)$ C: $(-1, 4)$
 D: $(2, 3)$ E: $(3, 2)$ F: $(5, 0)$
 G: $(1, -1)$ H: $(0, 0)$ I: $(0, 6)$

2. Draw each of the following points on the grid provided:



A: $(-3, 4)$ B: $(4, -3)$ C: $(2, 5)$
 D: $(-2, -5)$ E: $(6, 1)$ F: $(7, -5)$
 G: $(-4, 9)$ H: $(9, -4)$ I: $(0, 0)$

3. Given the following equation, $y = 2x + 3$, what is the value of "y" when "x" is equal to 12?

$$y = 2(12) + 3$$

$$y = 24 + 3 = 27 \quad (12, 27)$$

4. Given the following equation, $y = \frac{2}{3}x - 10$, what is the value of "y" when "x" is equal to 15?

$$y = \frac{2}{3}(15) - 10$$

$$y = 10 - 10 = 0 \quad (15, 0)$$

5. Given each equation below, complete the table of values given and then plot the points on the grid:

<p>a) $x + y = 4$</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr><th>x</th><th>y</th></tr> </thead> <tbody> <tr><td>1</td><td>3</td></tr> <tr><td>3</td><td>1</td></tr> <tr><td>5</td><td>-1</td></tr> <tr><td>-2</td><td>6</td></tr> </tbody> </table>	x	y	1	3	3	1	5	-1	-2	6	<p>b) $y = x - 3$</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr><th>x</th><th>y</th></tr> </thead> <tbody> <tr><td>2</td><td>-1</td></tr> <tr><td>4</td><td>1</td></tr> <tr><td>6</td><td>3</td></tr> <tr><td>9</td><td>6</td></tr> </tbody> </table>	x	y	2	-1	4	1	6	3	9	6
x	y																				
1	3																				
3	1																				
5	-1																				
-2	6																				
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<p>c) $y = 1.5x - 4$</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr><th>x</th><th>y</th></tr> </thead> <tbody> <tr><td>4</td><td>2</td></tr> <tr><td>2</td><td>-1</td></tr> <tr><td>0</td><td>-4</td></tr> <tr><td>$1\frac{1}{3}$</td><td>3</td></tr> </tbody> </table> <p style="margin-left: 20px;"> $3 = 1.5x - 4$ $7 = \frac{3}{2}x$ $\frac{2 \cdot 7}{3} = x$ $\frac{14}{3} = x$ </p>	x	y	4	2	2	-1	0	-4	$1\frac{1}{3}$	3	<p>d) $y = \frac{2}{3}x + 1$</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr><th>x</th><th>y</th></tr> </thead> <tbody> <tr><td>9</td><td>7</td></tr> <tr><td>3</td><td>3</td></tr> <tr><td>6</td><td>5</td></tr> <tr><td>0</td><td>1</td></tr> </tbody> </table> <p style="margin-left: 20px;"> $y = \frac{2}{3}x + 1$ $y = \frac{2}{3}(3) + 1$ $y = 3$ $y = \frac{2}{3}(6) + 1$ $y = 5$ $y = 7$ $y = 4 + 1 = 5$ </p>	x	y	9	7	3	3	6	5	0	1
x	y																				
4	2																				
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$3 \cdot 0 = \frac{2}{3}x + 1$
 $0 = 2x$
 $\frac{0}{2} = \frac{2x}{2}$
 $0 = x$

6. Given the following equation, make a table of values and draw the graph with the grid provided:

$$y = \frac{3}{2}x - 5$$

x	y
0	-5
1	-3.5
2	-2
3	-0.5
4	1
5	2.5
8	7

$$y = \frac{3}{2}(2) - 5$$

$$y = \frac{3}{2}(1) - 5$$

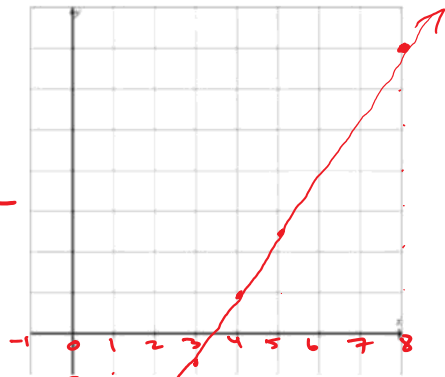
$$y = (1.5) - 5 = -3.5$$

$$y = \frac{3}{2}(4) - 5$$

$$y = 12 - 5$$

$$y = 7$$

$$\begin{array}{r} 4.5 \\ \times 8 \\ \hline 12.0 \end{array}$$



7. Timothy took the taxi and the cost was \$2.50 plus \$0.75 for each km. Write an equation for the cost "C" vs distance in km "D".

$$\text{Cost} = 0.75 \times D + 2.50$$

b) How much would the taxi ride cost if he travelled for 10km?

$$C = 0.75 \times 10 + 2.5$$

$$C = \$10$$

HE CAN TRAVEL
10km WITH \$10

c) If Timothy had only \$20.00 in his wallet, what was the farthest distance he can travel? Assume that tax and tips are already included.

$$20 = 0.75D + 2.5$$

$$\frac{17.50}{0.75} = \frac{0.75D}{0.75}$$

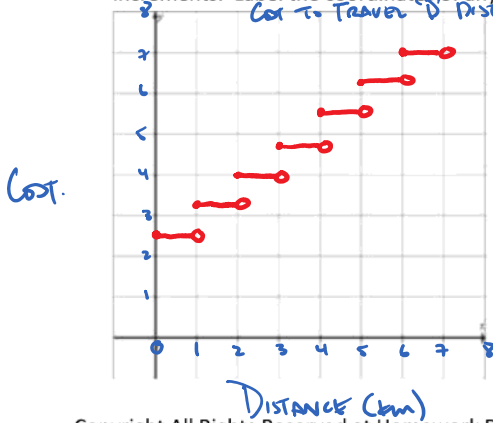
$$23.\overline{33} = D$$

HE CAN TRAVEL
23. $\overline{33}$ km

d) Complete the following table of values:

C	6.25	10	13.75	17.50
d (km)	5	10	15	20

e) Draw a graph representing the Cost as a function of the distance travelled. Label the axis and the increments. Label the coordinates of any points on your graph:



Q: Do I connect the dots and draw a straight line

Q: How would this graph look like

STAIR CASE GRAPH



$$C = (0.75(40)) + 2.50$$

$$= 32.50$$

$$75 \times 4$$

$$30$$