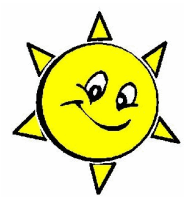
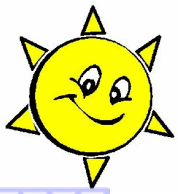


Warm-Up Grade 9



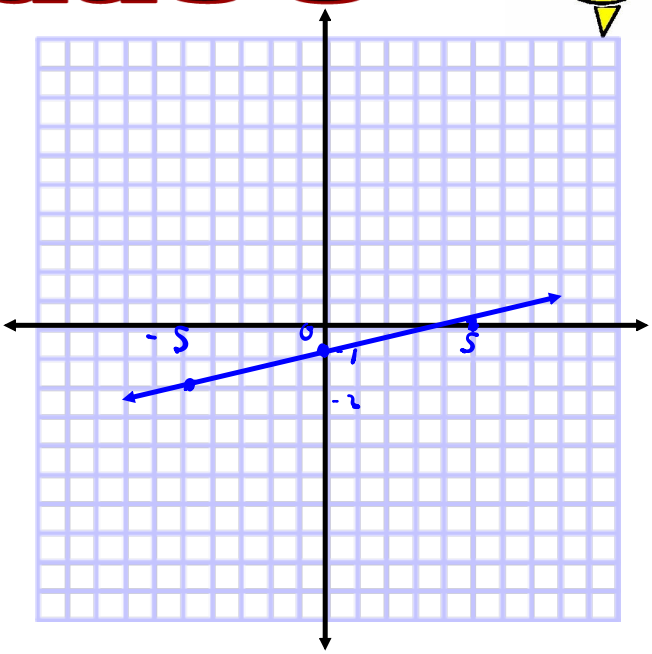
Make a table for 3 values of x.
Graph the equation.
(Pick nice numbers)

$\frac{1}{5}x - y = 1$

$-y = -\frac{1}{5} + 1$

$y = \frac{1}{5}x - 1$

x	y
-5	-2
0	-1
5	0



Homework Questions?

1. a)

Figure Number, n	Perimeter, P
1	4
2	10
3	16
4	22

+6, +6

1b) $6n-2$

use table
IF n=1 the P=?
$P = 6n + \_\_$
$4 = 6(1) + \_\_$
$4 = 6 - 2$

1d) $P = 6n-2$

1c) $P = 6n-2$
$P = 6(40)-2$
$= 240 - 2$
$= 238$

1e) $P = 136$ $n = ?$
$P = 6n-2$
$136 = 6n-2$
$136+2 = 6n-2+2$
$138 = 6n$
$\frac{138}{6} = \frac{6n}{6}$
$23 = n$

2) a) $C = 0.25(t)+10$

b) $t = 55$ $C = ?$
$C = 0.25(t)+10$
$C = 0.25(55)+10$
$= 13.75 + 10$
$= 23.75$

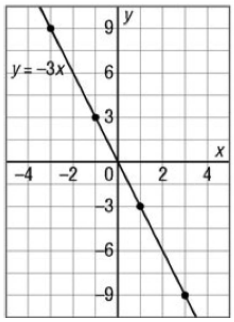
It would cost 23.75 for 55min of Long distance

2c) $C = 22.50$ $t = ?$
$C = 0.25(t)+10$
$22.50 = 0.25(t)+10$
$22.50 - 10 = 0.25(t)+10-10$
$12.50 = 0.25(t)$
$\frac{12.50}{0.25} = \frac{0.25(t)}{0.25}$
$50 = t$

You can talk for 50 min for $22.50.

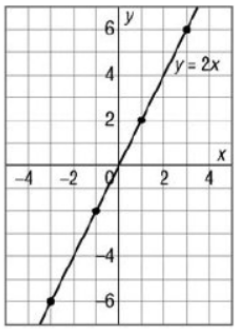
3. a) $y = -3x$

x	y
−3	9
−1	3
1	−3
3	−9



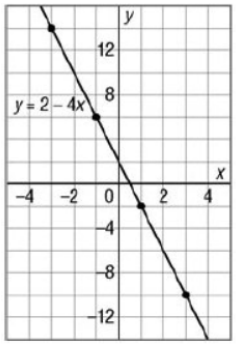
b) $y = 2x$

x	y
−3	−6
−1	−2
1	2
3	6



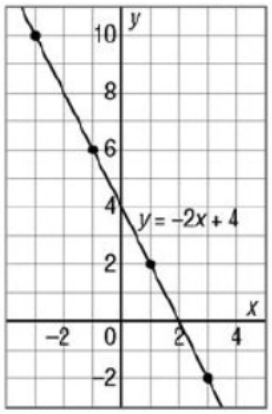
c) $y = 2 - 4x$

x	y
−3	14
−1	6
1	−2
3	−10



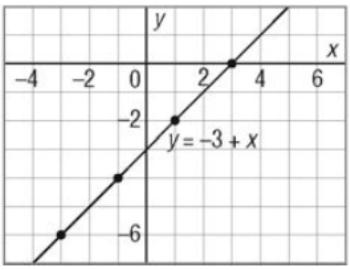
d) $y = -2x + 4$

x	y
−3	10
−1	6
1	2
3	−2



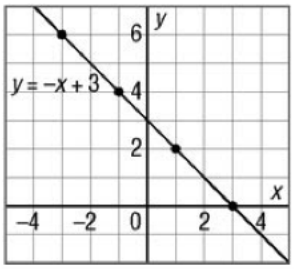
e) $y = -3 + x$

x	y
−3	−6
−1	−4
1	−2
3	0



f) $y = -x + 3$

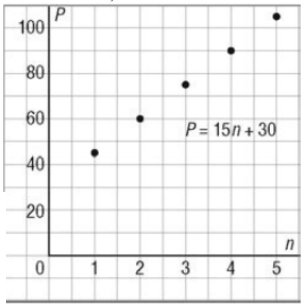
x	y
−3	6
−1	4
1	2
3	0



4. a)

Number of Weeks, n	Total Paid, P ($)
1	45
2	60
3	75
4	90
5	105

b) I should not join the points because Alicia pays once a week, so the data are discrete.



c) In the table, P increases by \$15 each week. On the graph, to get from one point to the next, move 1 unit right and 15 units up.

5. **a)**

x	y
1	10
2	14
3	18
4	22
5	26

b)

x	y
1	−6
3	−10
5	−14
7	−18
9	−22

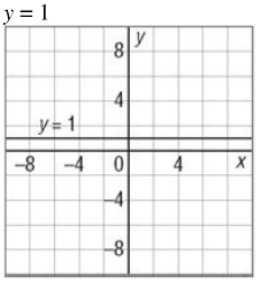
c)

x	y
−2	−15
−1	−9
0	−3
1	3
2	9

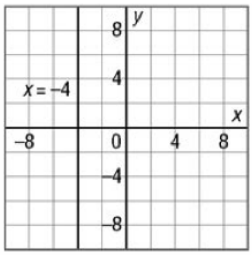
d)

x	y
2	1
4	−2
6	−5
8	−8
10	−11

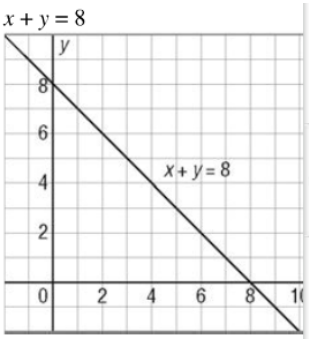
6. **a)** **i)** $y = 1$



ii) $x = -4$



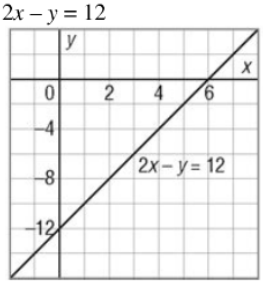
iii) $x + y = 8$



y= -x +8

x	y	
-2	10	-(-2) +8
-1	9	-(-1) +8
0	8	-(0) +8
1	7	-(1) +8
2	6	-(2) +8

iv) $2x - y = 12$



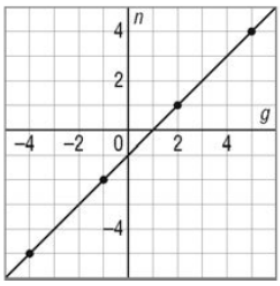
x	y	2x -12 = y
-2	-16	2(-2) -12
-1	-14	2(-1) -12
0	-12	2(0) -12
1	-10	2(1) -12
2	-8	2(2) -12

2x -y = 12
2x -y+y = 12+y

2x = 12+y
2x -12 = 12-12+y
2x -12 = y

7. **a)**

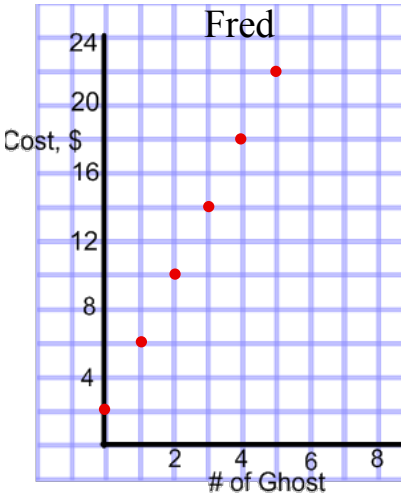
g	n
5	4
2	1
−1	−2
−4	−5

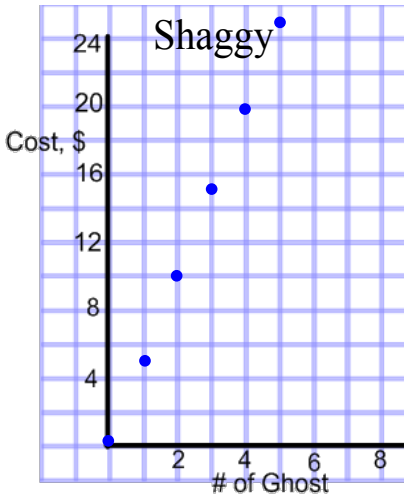


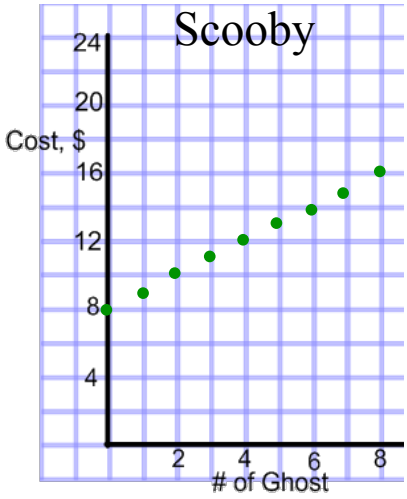
b) I would join the points because all val between the plotted points are permitt

c) $g - n = 1$

Fred, Shaggy and Scooby are hired to find ghosts. Each ghost hunter charges a different rate. These graphs show how the cost is related to the number of ghosts caught.







Match each graph with its equation:

$y = mx + b$ (slope, y-int)

$C = g + 8$ Scooby

$C = 5g + 0$ Shaggy

$C = 4g + 2$ Fred

Explain your Strategy

* Did you plug in a value for 'g' and see what 'C' is

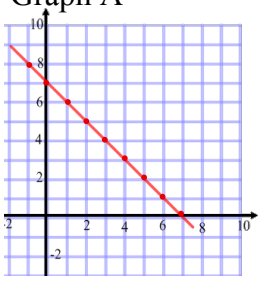
* Did anyone use a different strategy?

ERASE

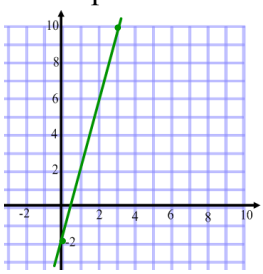
The 3 graphs below have these equations, but the graphs are not in order:

$y = 2x + 4$ (C) $x + y = 7$ $y = -x + 7$ (A) $y = 4x - 2$ (B)

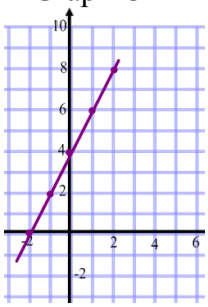
Graph A



Graph B



Graph C



Step 1) Use the three equations to determine the coordinates of the graphs.

Pick x=0, x=1, and x=2 and sub into each equation

$y = 2x + 4$	$x + y = 7$	$y = 4x - 2$
Substitute: x= 0 $y = 2(0) + 4$ $= 0 + 4$ $= 4$ one point: (0,4)	REARRANGE FOR Y= $y = -(x)+7$ Substitute: x= 0 $y = -(0)+7$ $= 0 + 7$ $= 7$ one point: (0,7)	Substitute: x= 0 $y= 4(0) -2$ $= 0 -2$ $= -2$ one point: (0,-2)
Substitute: x= 1 $y = 2(1) + 4$ $= 2 + 4$ $= 6$ one point: (1,6)	Substitute: x= 1 $y = -(1)+7$ $= -1 + 7$ $= 6$ one point: (1,6)	Substitute: x= 1 $y= 4(1) -2$ $= 4-2$ $= 2$ one point: (1,2)
Substitute: x= 2 $y = 2(2) + 4$ $= 4 + 4$ $= 8$ one point: (2,8)	Substitute: x= 2 $y = -(2)+7$ $= -2 + 7$ $= 5$ one point: (2,5)	Substitute: x= 2 $y= 4(2) -2$ $= 8-2$ $= 6$ one point: (2,6)

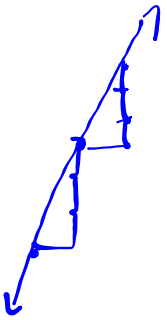
STEP 2) Match up the graph that has (0,4), (1,6) and (2,8) with y=2x+4.
Graph C

STEP 3) Match up the graph that has (0,7), (1,6) and (2,5) with x + y =7.
Graph A

STEP 4) Match up the graph that has (0,-2), (1,2) and (2,6) with y= 4x-2.
Graph B

$Y = 3x + 7$

x	y
-1	4
0	7
1	10
2	13



The number in front of "x" in the equation represents the slope:

Slope: (how steep a line is)

What we notice: when x increases by 1, y increases by 3

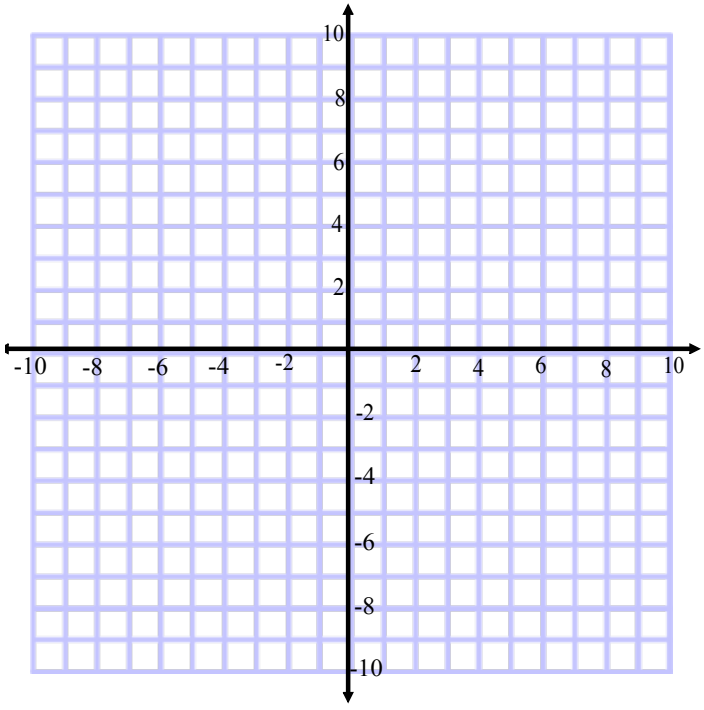
$$\text{Slope} = \frac{\text{change in y}}{\text{change in x}}$$

Thus

$$\text{Slope} = \frac{3}{1} = 3$$

What does this graph look like?

click to see



x	y
-1	4
0	7
1	10
2	13

NOTES

$Y = 3x + 7$

x	y
-1	4
0	7
1	10
2	13

The number in front of "x" in the equation represents the slope:

Slope: (how steep a line is)

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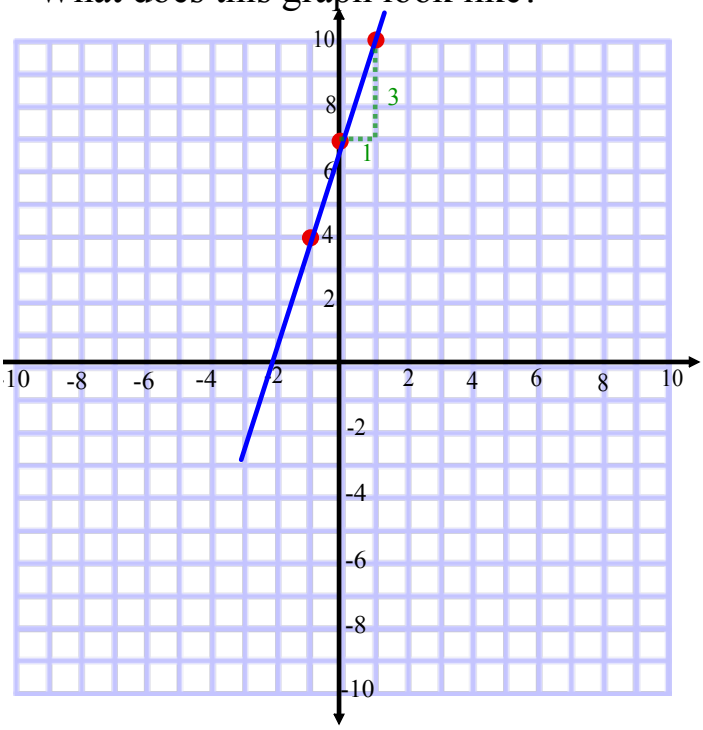
$$\text{Slope} = \frac{\text{change in y}}{\text{change in x}} \quad \updownarrow \over \leftrightarrow$$

Thus

$$\text{Slope} = \frac{3}{1} = 3$$

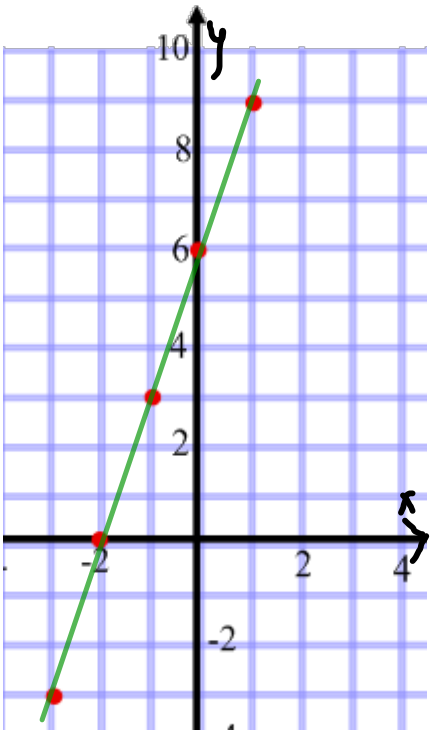
What does this graph look like?



x	y
-1	4
0	7
1	10
2	13

Which equation represents the graph?

1



Pick the correct equation

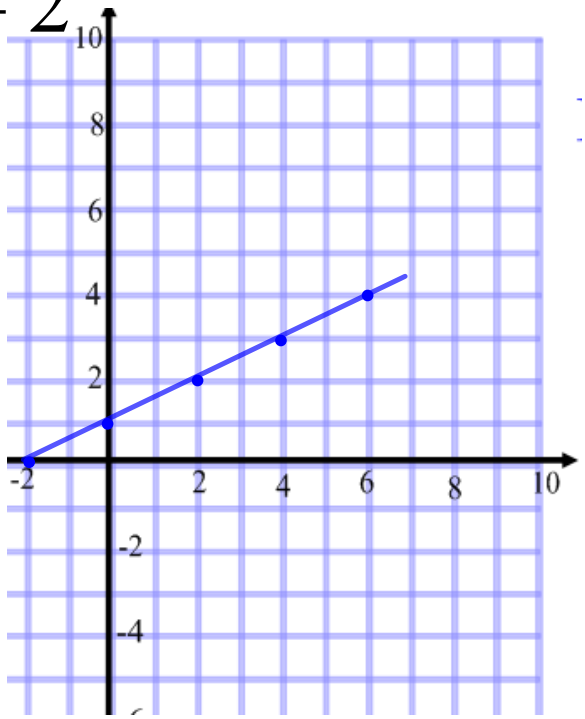
a) $y = -5x + 6$

b) $y = 3x + 6$

c) $y = 2x - 5$

Which equation represents the graph?

2



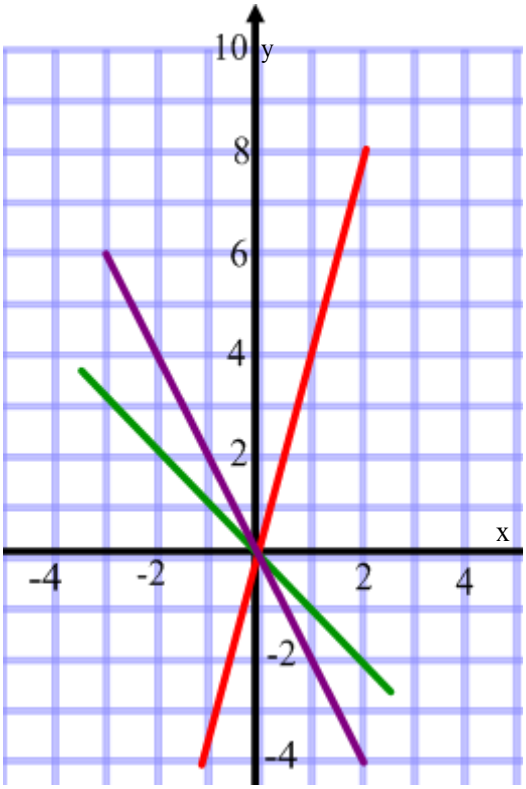
Pick the correct equation

a) $y = \frac{3}{2}x + 1$

b) $y = 2x + 1$

c) $y = \frac{1}{2}x + 1$

Matching Equations with Graphs that Pass Through the Origin



y = x

Match each graph on the grid with its equation

(Use the previous slide to help answer)

y = -x → REMEMBER y = -1x

GREEN

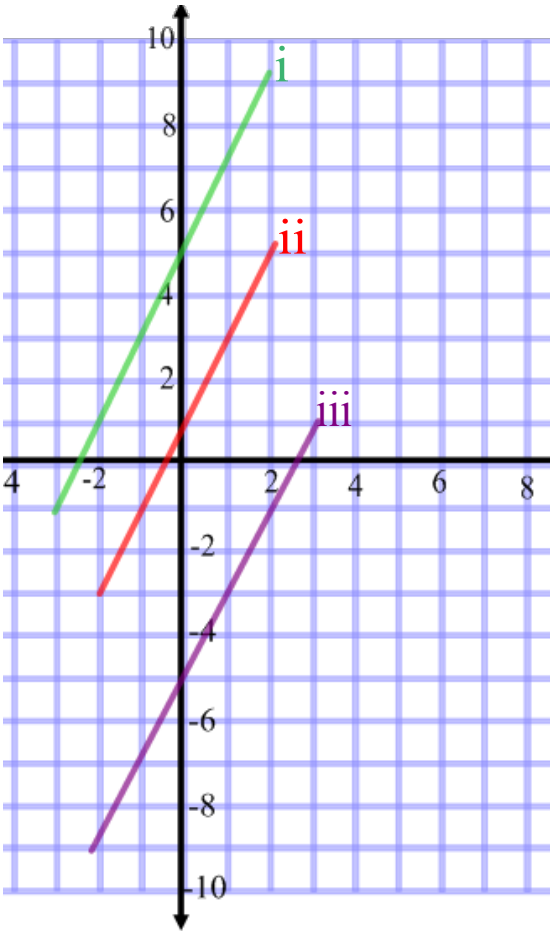
y = 4x Red

y = -2x Purple

Notice that when it is through the origin then nothing is added at the end. (no constant)

Hint: Start at (0,0)

Which graph represents the equation?



Which graph represents y= 2x - 3?

MUST JUSTIFY

Step 1)

Pick two points on each graph and check if left hand side equal right hand side after substitution.

Remember once one point fails more on.

Homework

page 188 - 190

#3 - #13