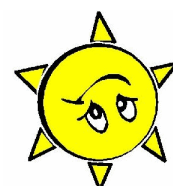


Warm-Up Grade 9

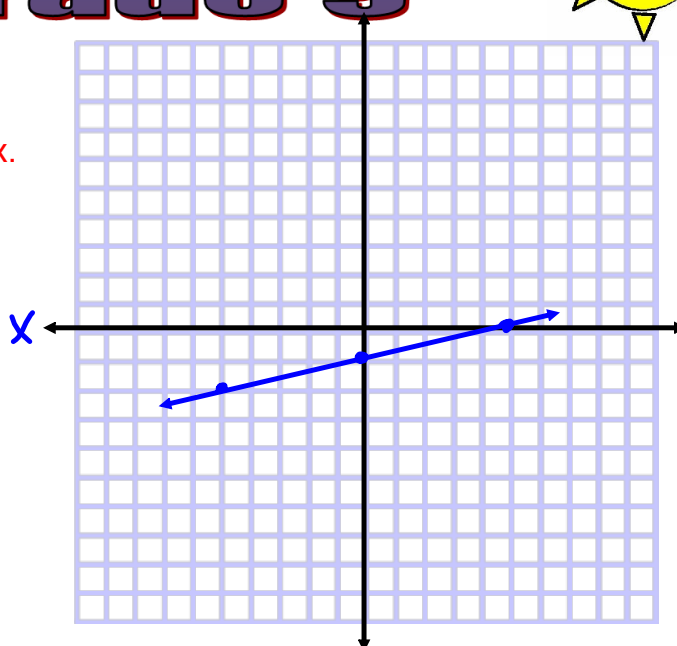


Make a table for 3 values of x .
Graph the equation.
(Pick nice numbers)

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

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

x	y
5	0
0	-1
-5	-2



Homework Questions?

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1. a)

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

1b) $6n - 2$

use table
if $n=1$ the $P=4$
 $P = 6n - 2$
 $4 = 6(1) - 2$
 $4 = 6 - 2$

$$\begin{aligned} 1c) \quad P &= 6n - 2 \\ P &= 6(40) - 2 \\ &= 240 - 2 \\ &= 238 \end{aligned}$$

1d) $P = 6n - 2$

$$\begin{aligned} 1e) \quad P &= 136 \quad n = ? \\ P &= 6n - 2 \\ 136 &= 6n - 2 \\ 136 + 2 &= 6n - 2 + 2 \\ 138 &= 6n \\ \frac{138}{6} &= \frac{6n}{6} \\ 23 &= n \end{aligned}$$

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

$$\begin{aligned} b) \quad t &= 55 \quad C = ? \\ C &= 0.25(t) + 10 \\ C &= 0.25(55) + 10 \\ &= 13.75 + 10 \\ &= 23.75 \end{aligned}$$

It would cost
23.75 for
55 min of
Long distance

2c) $C = 22.50 \quad t = ?$

$$\begin{aligned} C &= 0.25(t) + 10 \\ 22.50 &= 0.25(t) + 10 \end{aligned}$$

$$22.50 - 10 = 0.25(t) + 10 - 10$$

$$12.50 = 0.25(t)$$

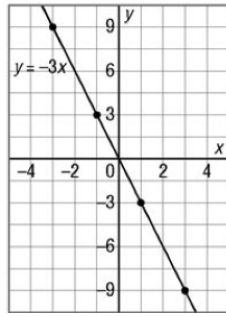
$$\frac{12.50}{0.25} = \frac{0.25(t)}{0.25}$$

$$50 = t$$

You can talk
for 50 min
for \$22.50.

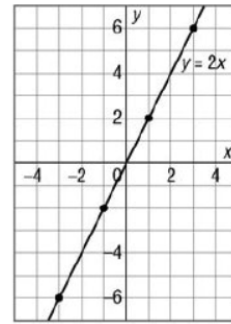
3. a) $y = -3x$

x	y
-3	9
-1	3
1	-3
3	-9



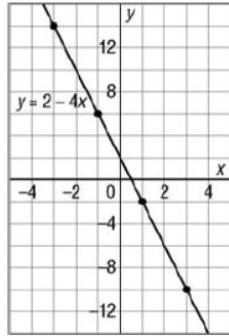
b) $y = 2x$

x	y
-3	-6
-1	-2
1	2
3	6



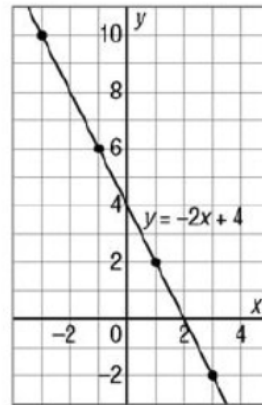
c) $y = 2 - 4x$

x	y
-3	14
-1	6
1	-2
3	-10



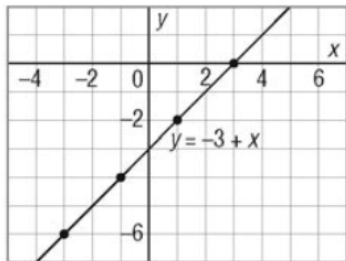
d) $y = -2x + 4$

x	y
-3	10
-1	6
1	2
3	-2



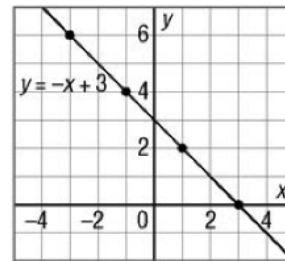
e) $y = -3 + x$

x	y
-3	-6
-1	-4
1	-2
3	0



f) $y = -x + 3$

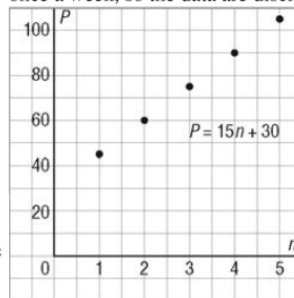
x	y
-3	6
-1	4
1	2
3	0



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)

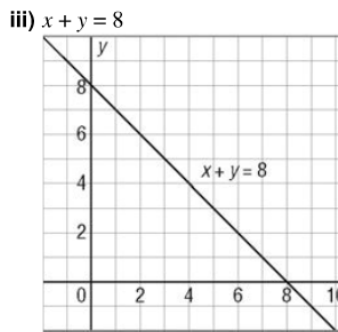
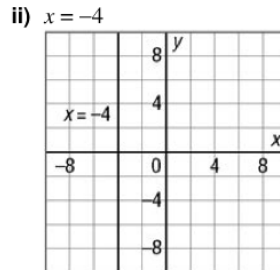
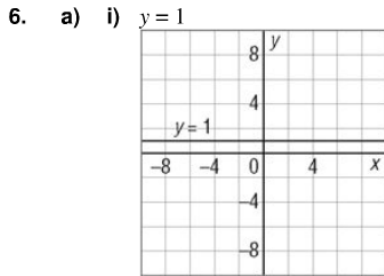
x	y
1	-6
3	-10
5	-14
7	-18
9	-22

 c)

x	y
-2	-15
-1	-9
0	-3
1	3
2	9

 d)

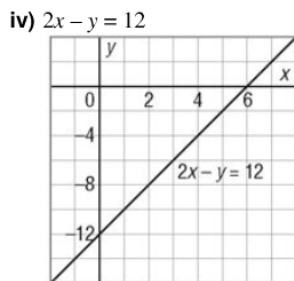
x	y
2	1
4	-2
6	-5
8	-8
10	-11



$y = -x + 8$

x	y
-2	10
-1	9
0	8
1	7
2	6

$-(-2) + 8$
 $-(-1) + 8$
 $-(0) + 8$
 $-(1) + 8$
 $-(2) + 8$



$2x - 12 = y$

x	y
-2	-16
-1	-14
0	-12
1	-10
2	-8

$2(-2) - 12$
 $2(-1) - 12$
 $2(0) - 12$
 $2(1) - 12$
 $2(2) - 12$

$$2x - y = 12$$

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

$$2x = 12 + y$$

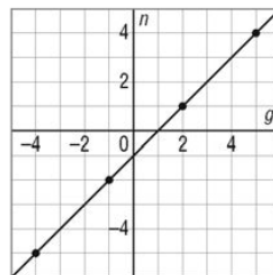
$$2x - 12 = 12 - 12 + y$$

$$2x - 12 = y$$

7. a)

g	n
5	4
2	1
-1	-2
-4	-5

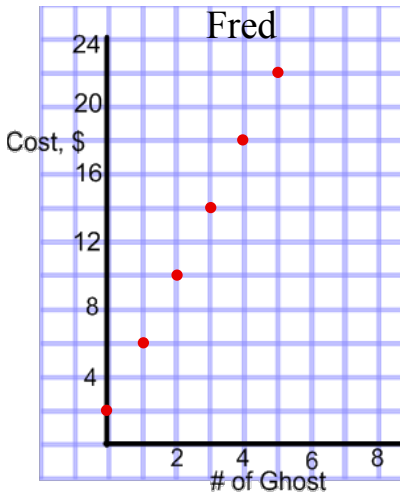
b) I would join the points because all values between the plotted points are permitted.



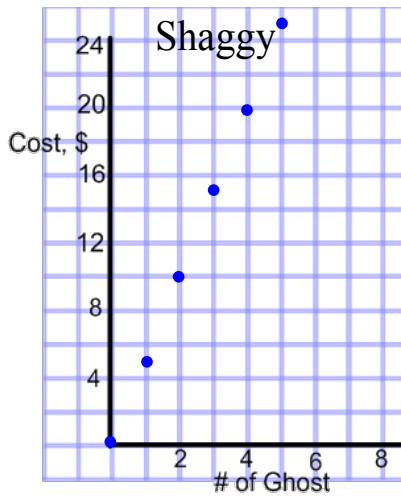
c) $g - n = 1$



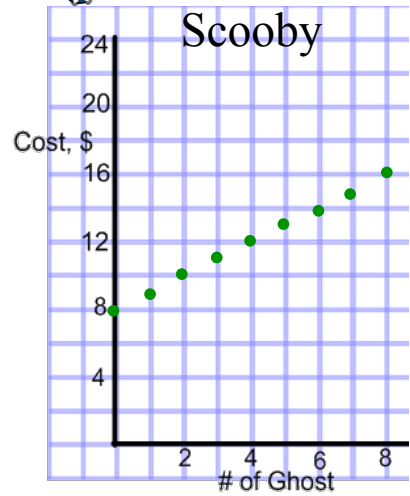
Fred, Shaggy and Scooby are hired to find ghosts. Each ghost hunter charges a different rate. These graphs show how the cost is related to the number of ghosts caught.



$$C = 4g + 2$$



$$C = 5g$$



$$C = g + 8$$

Match each graph with its equation:

$$y = mx + b \leftarrow y\text{-int}$$

$$C = g + 8$$

$$C = 5g$$

$$C = 4g + 2$$

Explain your Strategy

*

*



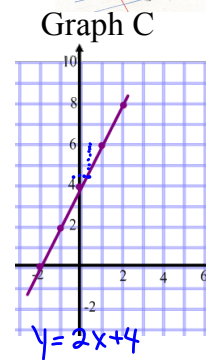
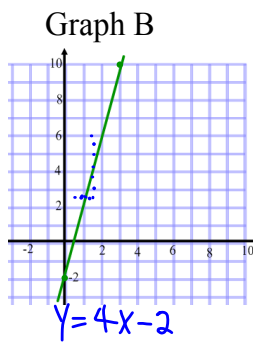
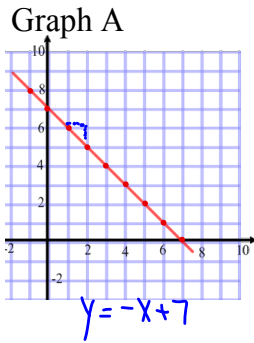
ERASE

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

$y = 2x + 4$
 $m = \frac{2}{1}$

$x + y = 7$
 $y = -x + 7$
 slope

$y = 4x - 2$



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



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

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

STEP 3 Match up the graph that has (0,), (1,) and (2,) with $y = -x + 7$.

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

$$Y = 3x + 7$$

$m = \frac{3}{1}$ (slope)
 7 (y-int)

x	y
-1	4
0	7
1	10
2	13

Handwritten notes: A red arrow points from the coefficient 3 to the x-values in the table. Blue arrows show the change in x (+1) and the corresponding change in y (+3) for each row.

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


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

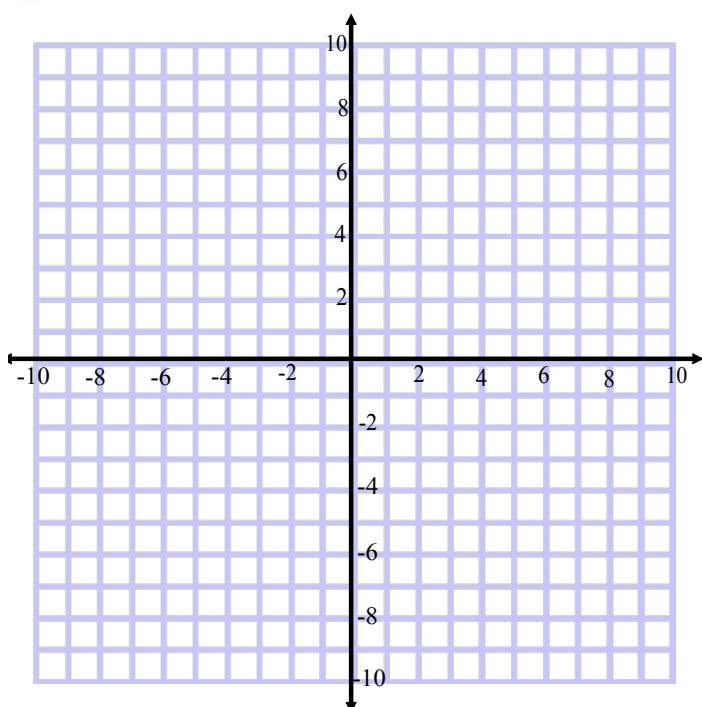
(Change in y is indicated by a vertical double-headed arrow, and change in x is indicated by a horizontal double-headed arrow.)

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

$$Y = 3x + 7 \longrightarrow$$

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

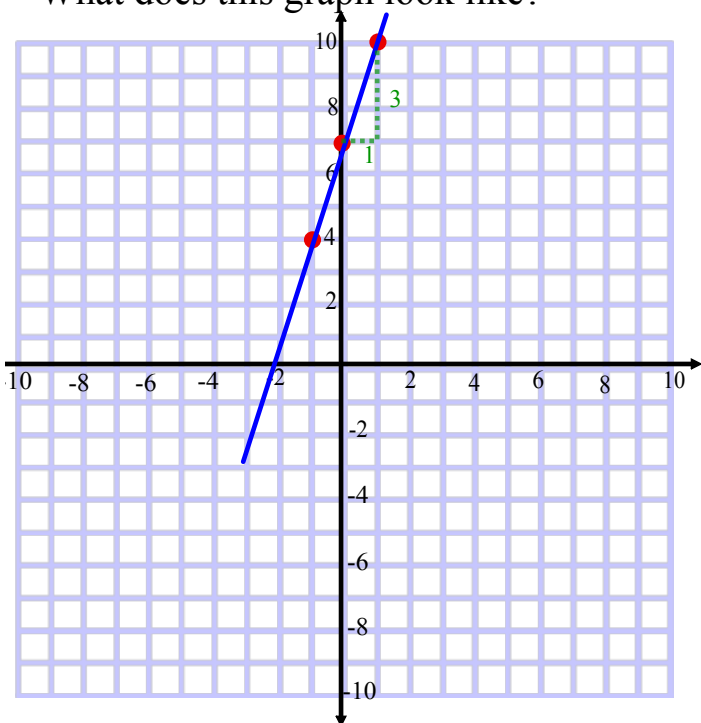
$$\text{Slope} = \frac{\text{change in y}}{\text{change in x}}$$

\updownarrow
 \longleftrightarrow

Thus

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

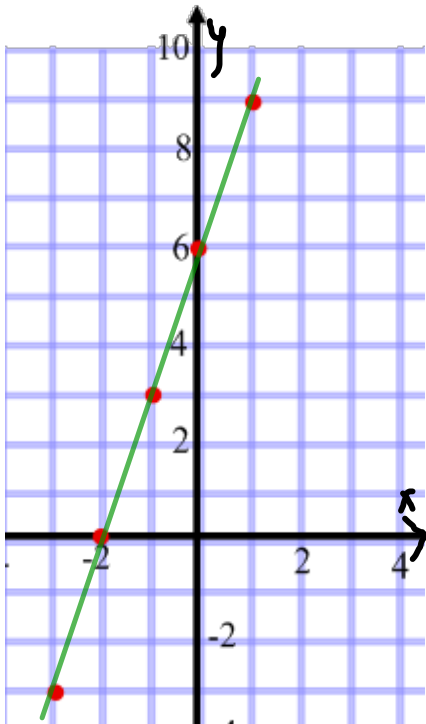
What does this graph look like?



x	y
-1	4
0	7
1	10
2	13

Which equation represents the graph?

1



Pick the correct equation

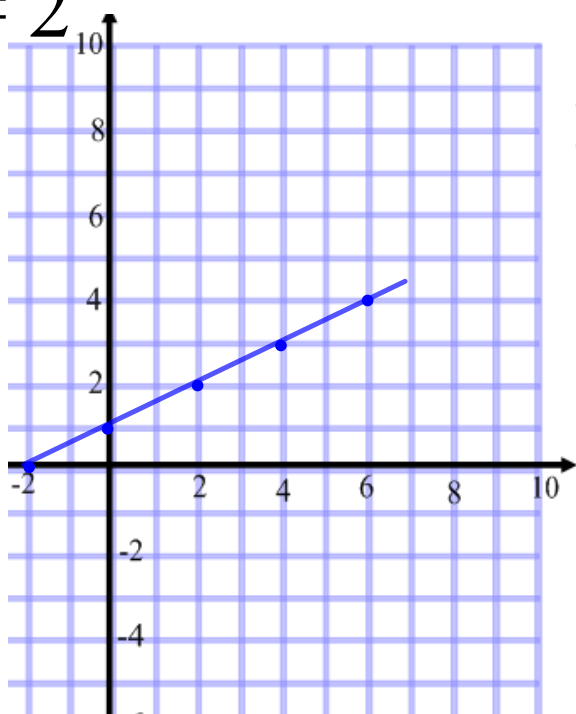
a) $y = -5x + 6$ $-\frac{5}{1}$ $\frac{\text{down } 5}{\text{right } 1}$

b) $y = 3x + 6$ $m = 3$ $\frac{\text{right } 1}{\text{up } 3}$

c) $y = 2x - 5$

Which equation represents the graph?

2



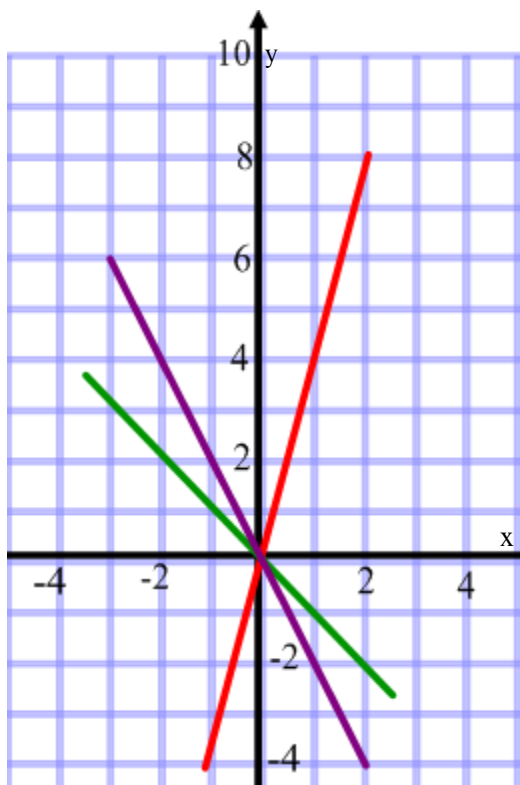
Pick the correct equation

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



Match each graph on the grid with its equation

(Use the previous slide to help answer)

Green $y = -x$  $y = -1x$
REMEMBER

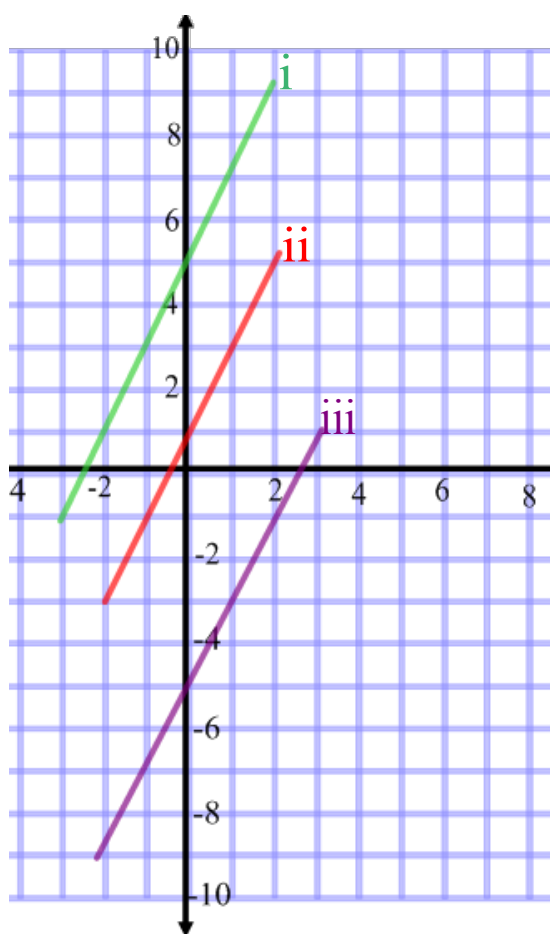
Red $y = 4x$

Purple $y = -2x$

Hint: Start at $(0,0)$

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

Which graph represents the equation?



Which graph represents $y = 2x - 3$?

MUST JUSTIFY *No graph has
y-intercept = -3*

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.

No solution

Homework

page 188 - 190

#3 - #13

