Multiply out the brackets and simplify:

$2(x + 1)$

$= 2x + 2$

$3(2x - 7)$

$= 6x - 21$

$4(x-3)+2(x+1)$

$= 4x - 12 + 2x + 2 = 6x - 10$

$2(5x-7)+3(4x+1)$

$= 10x$

$- 14 + 12x + 3 = 22x - 11$

$4(2x+1)-6(x-2)$

$= 8x + 4 - 6x + 12$

$= 2x + 16$

$2(x + 15)$

$= 2x + 30$

$3(2x - 5)$

$= 6x - 15$

$4(x + 5) - 2(x + 12)$

$= 4x + 20 - 2x - 24 = 2x - 4$

$10(3x - 6) - 4(2x - 15)$

$= 30x - 60 - 8x + 60$

$= 22x$

If a = 2 and b= 4 find:

$\frac{b}{a} = \frac{4}{2} = 2$

$a^2 = 4$

$4b-3a = 16-6 = 10$

$a+b = 6$

$a-b = 2-4 = -2$

$\sqrt{b} = 2$

$3a-2b = 6-8 = -2$

Multiply out the brackets:

$3(x-7)$

$= 3x - 21$

$2(3x + 4)$

$= 6x + 8$

$5(2x - 1) + 3(3x + 4)$

$= 10x - 5 + 9x + 12$

$= 19x + 7$

$7x(x + 2)$

$= 7x^2 + 14x$

$6x - 3(x + 1)$

$= 6x - 3x - 3$

$= 3x - 3$

$5(x + 4) - 2(2x + 3)$

$= 5x + 20 - 4x - 6$

$= x + 14$

If a = -2 and b= 9 find:

Substitution

$a^2 = 4$

$\sqrt{b} = 3$

$a+b = 7$

$4b-3a$

$= 36-(-6)$

$= 42$

$b-a = 9-(-2)$

$= 9+2 = 11$

$a-b$

$-2-9 = -11$

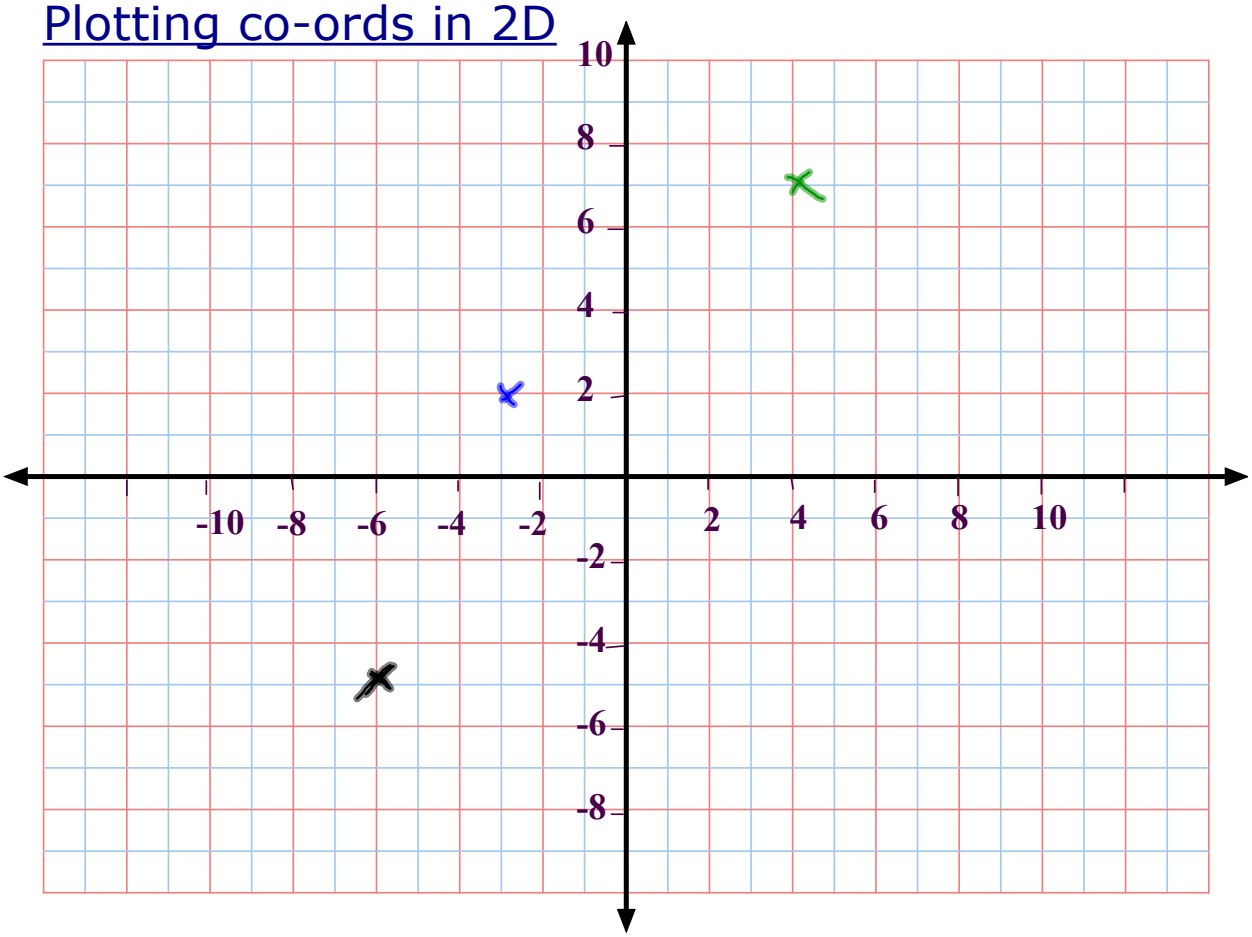
$3a-2b$

$-6-18 = -24$

$\frac{b+1}{a} = \frac{10}{-2}$

$= -5$

Plotting co-ords in 2D



3D co-ordinates

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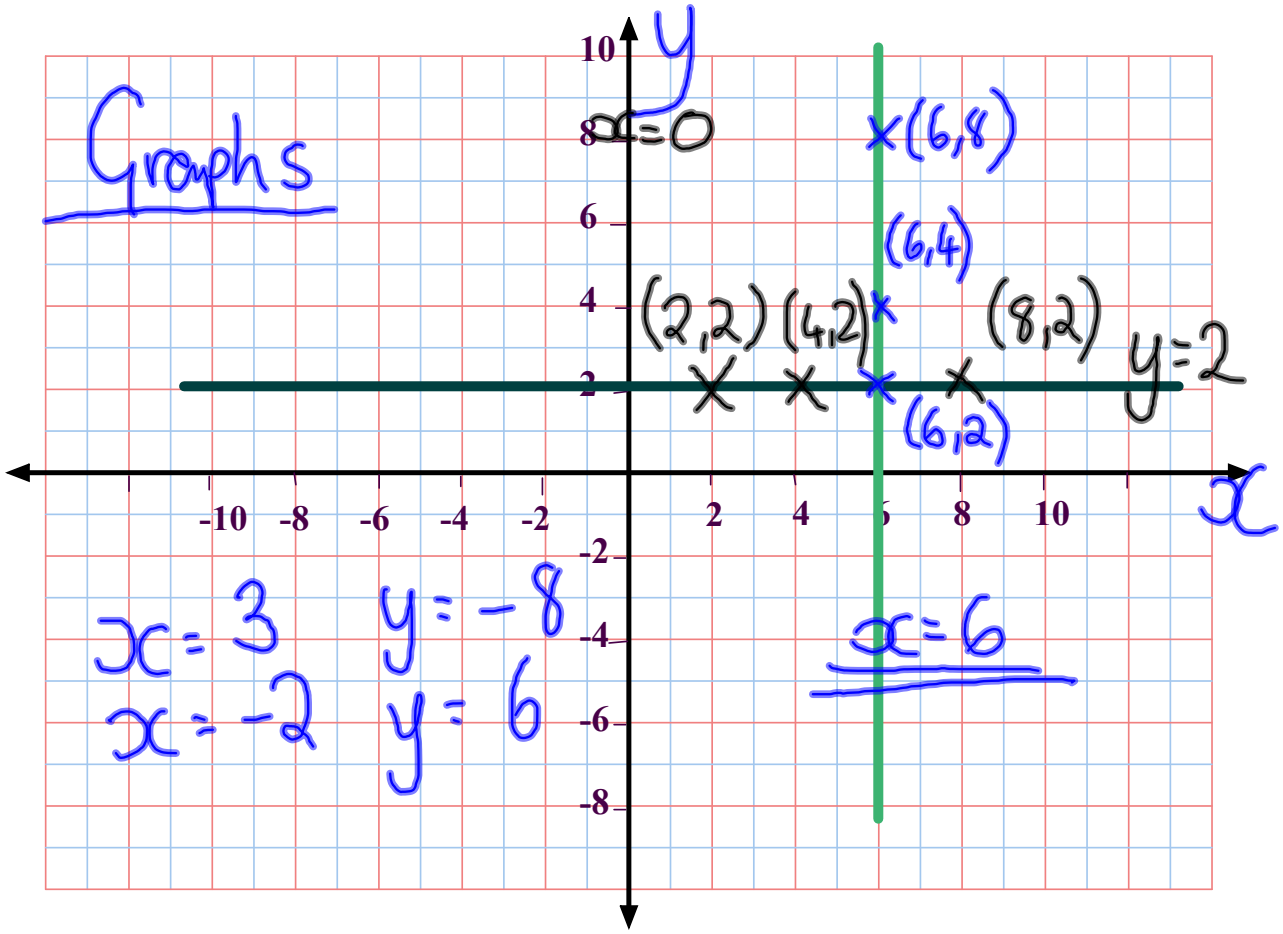
Graphs
y
x
10
8
6
4
2
-2
-4
-6
-8
-10
-8
-6
-4
-2
2
4
8
10
x=0
(2,2)
(4,2)
(6,4)
(6,8)
(8,2)
(6,2)
y=2
x=6
x=3
y=-8
x=-2
y=6

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Is there a relationship?

x	y
0	0
1	2
2	4
3	6
4	8

y= 2x

x	y
0	0
1	1
2	2
3	3
4	4

y=x

x	y
0	1
1	2
2	3
3	4
4	5

y=x+1

x	y
0	0
1	0.5
2	1
3	1.5
4	2

$y = \frac{1}{2}x$

P245 B1 ⇒ 1. 2. 3.

Plot each of the graphs

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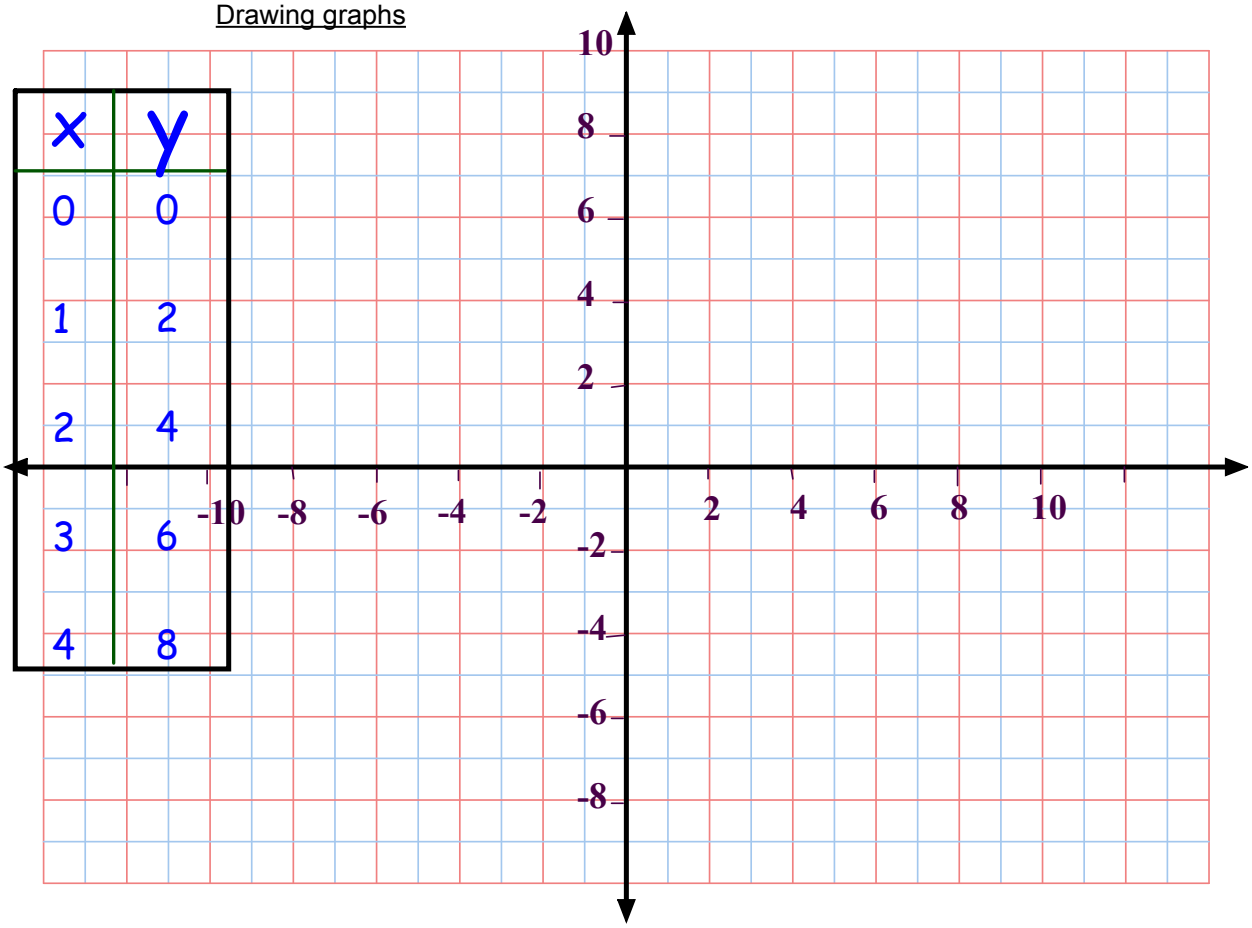
Plot the graphs for A4

Drawing graphs

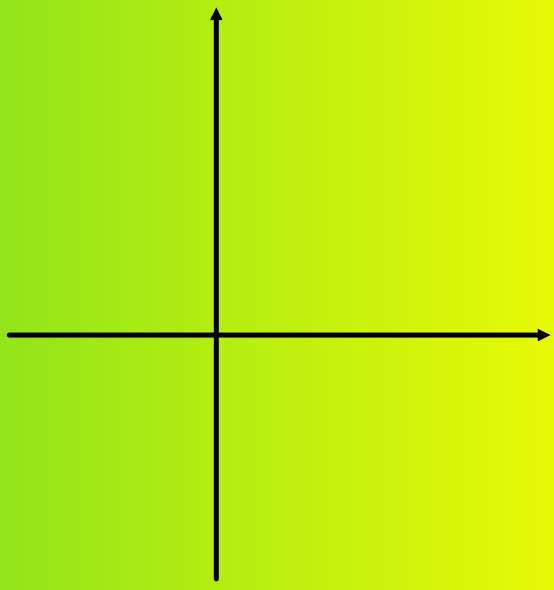


Drawing the graph given the rule

A graph has equation y= 3x - 1

Draw a table of values and the graph.

x	y
0	
1	
2	
3	
4	



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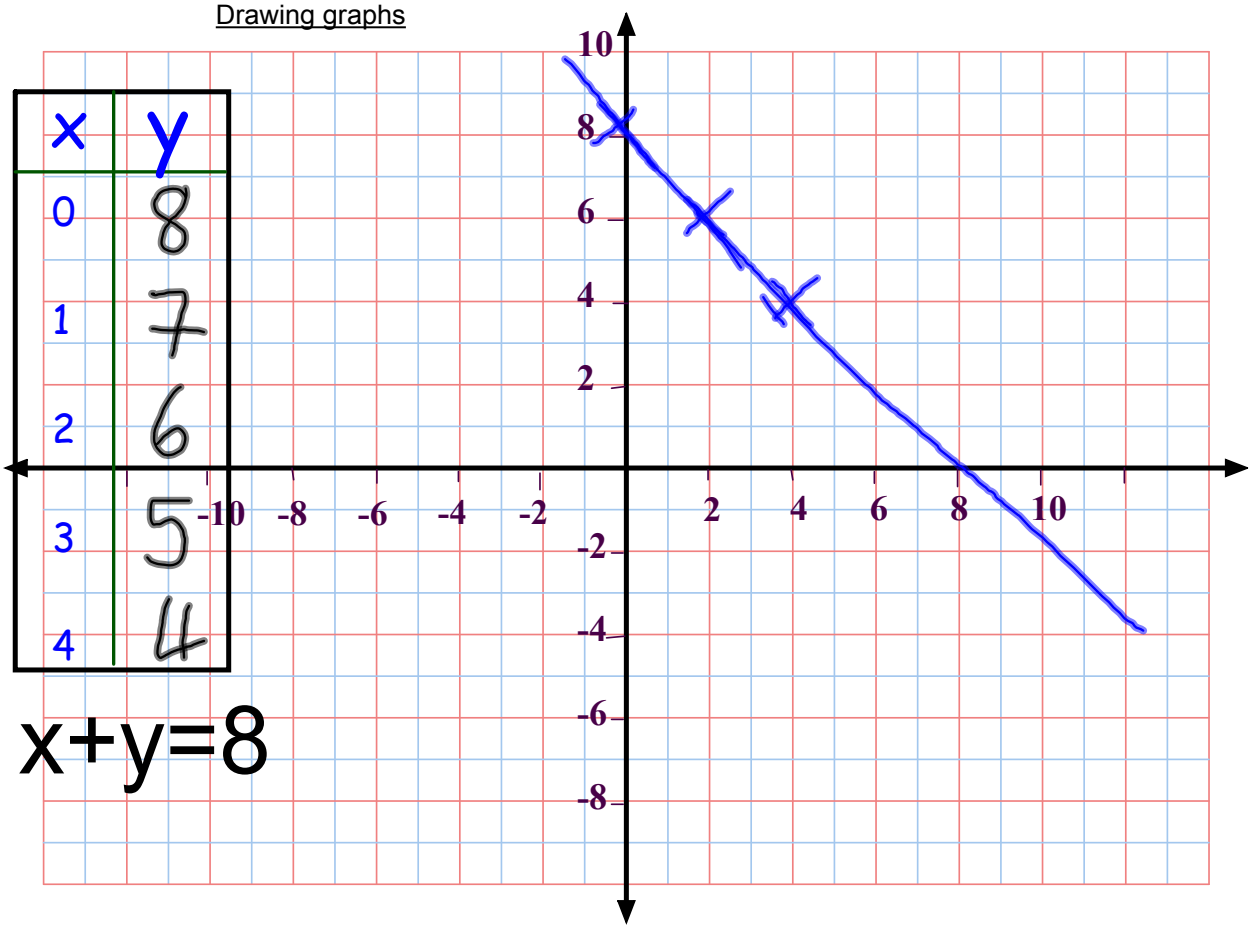
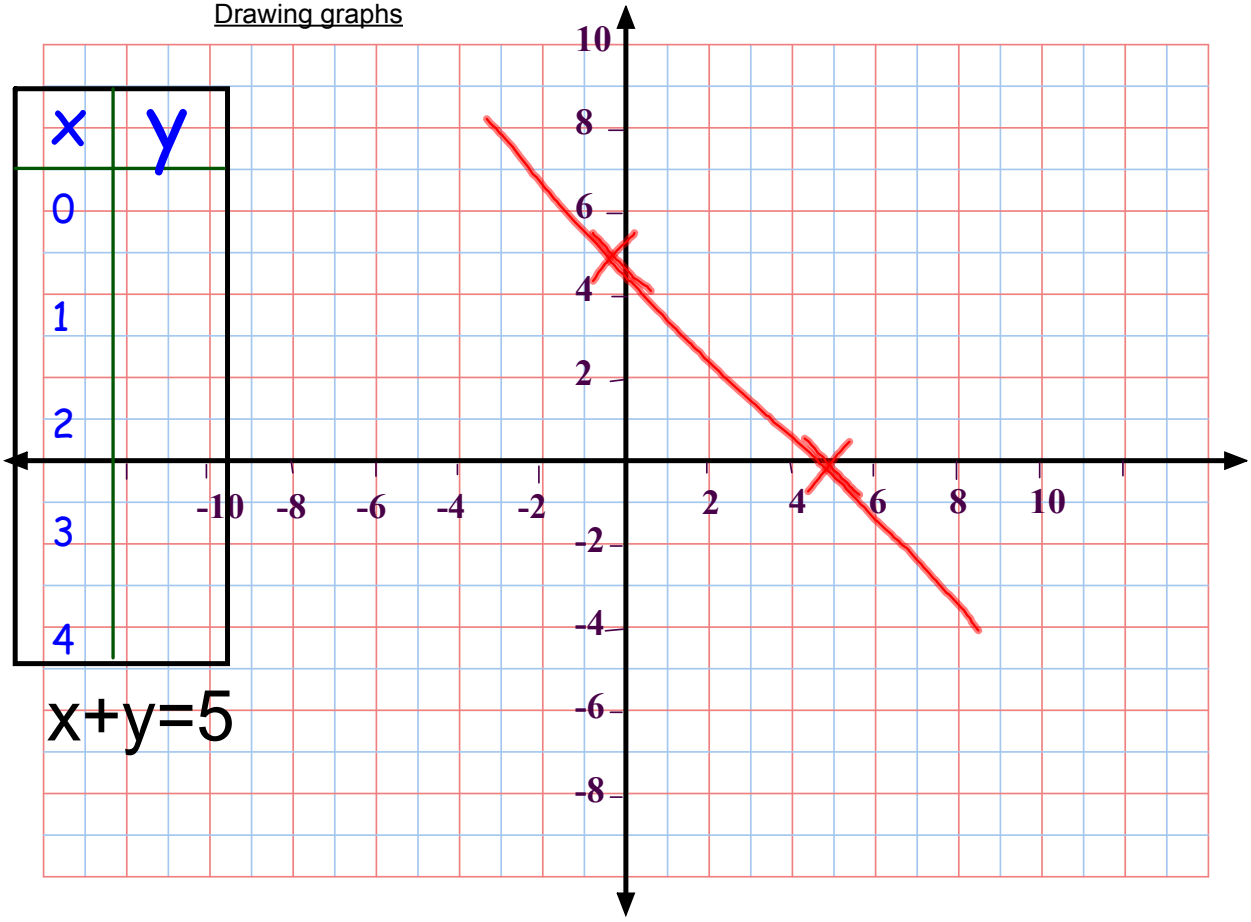
Drawing graphs



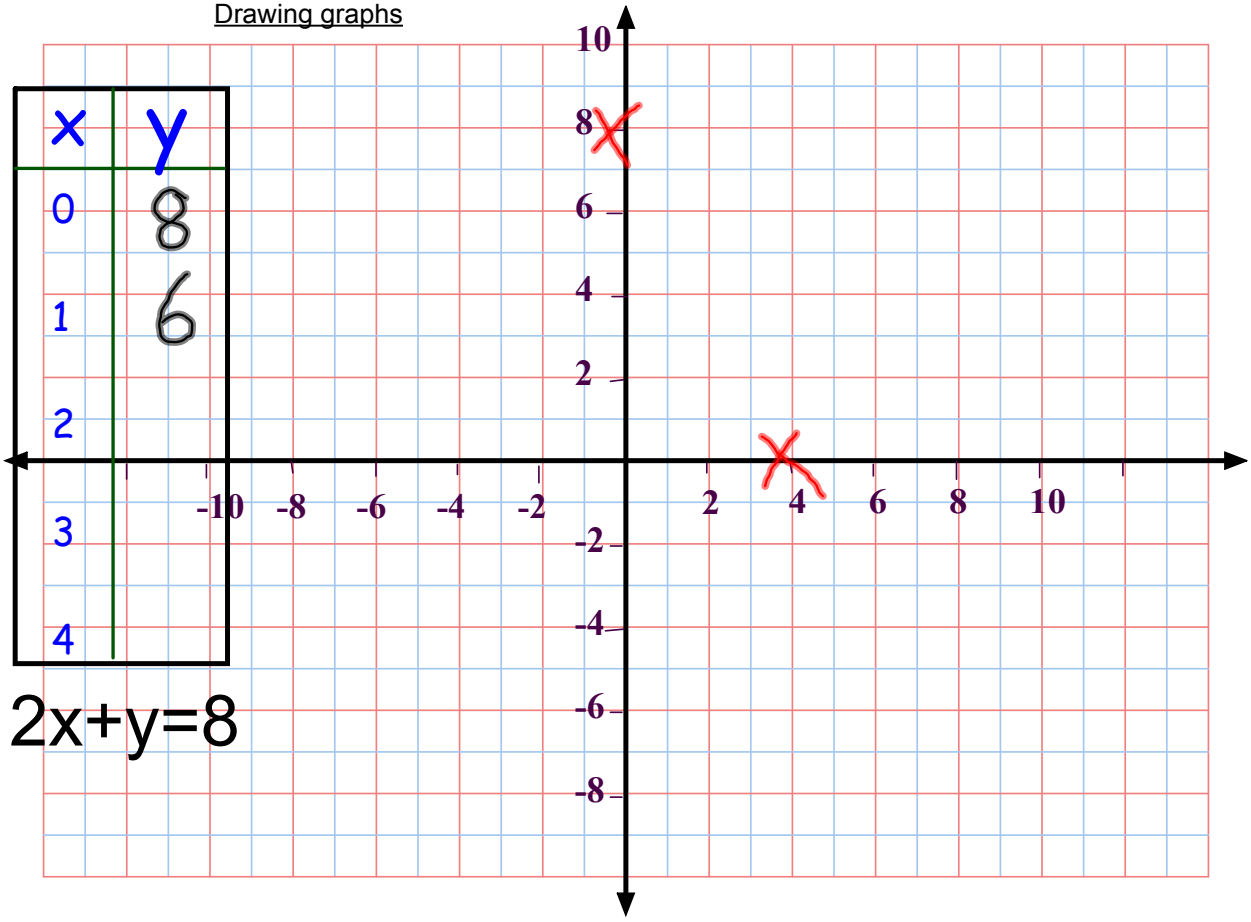
x	y
0	8
1	7
2	6
3	5
4	4

$x+y=8$

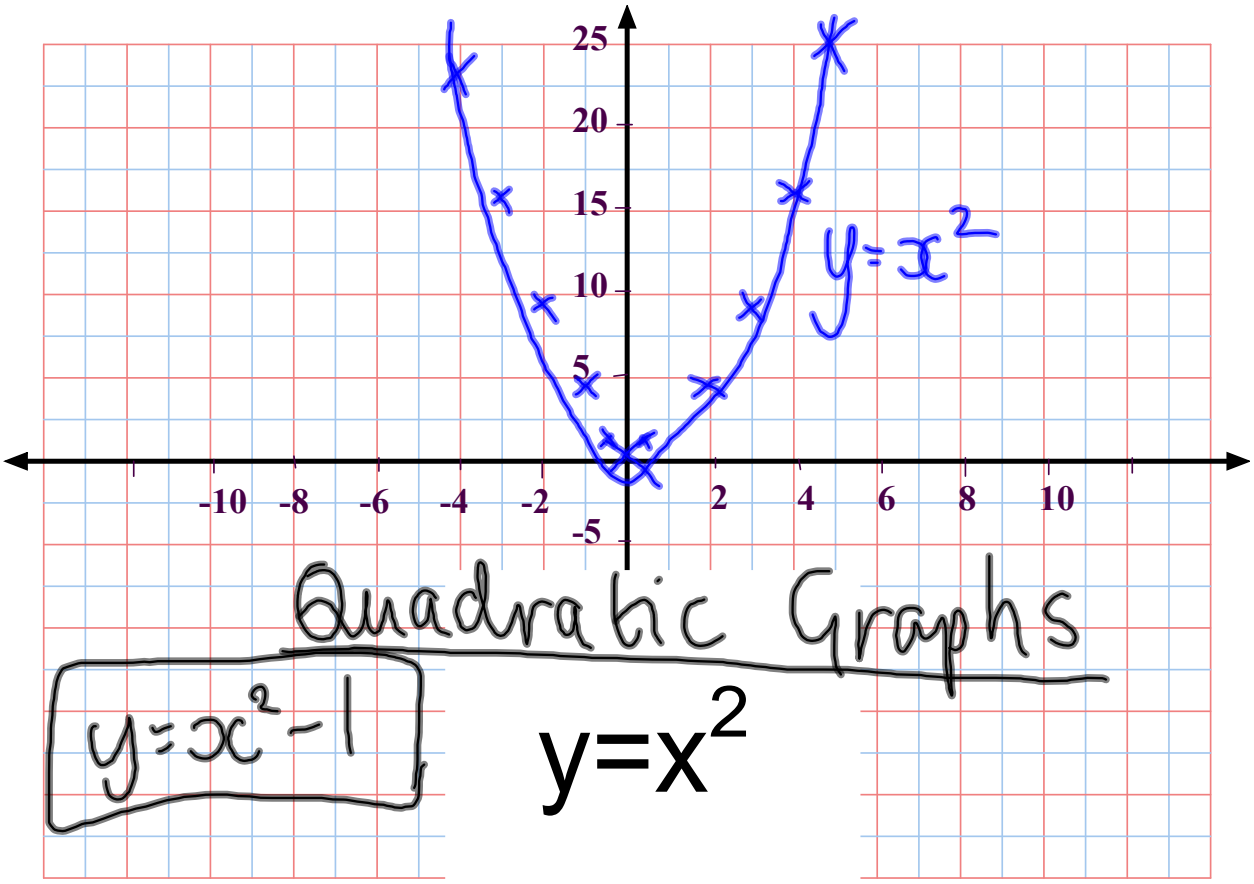
Drawing graphs



Drawing graphs



$2x+y=8$



Quadratic Graphs

$y=x^2-1$

$y=x^2$

x	$y=x^2$
-4	16
-3	9
-2	4
-1	1
0	0
1	1
2	4
3	9
4	16

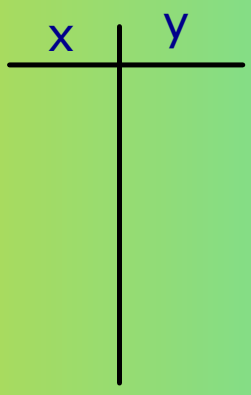
Draw the graphs of:

a) y= 3x

b) y = 2x +4

c) y= 10 - x

d) x + y = 10



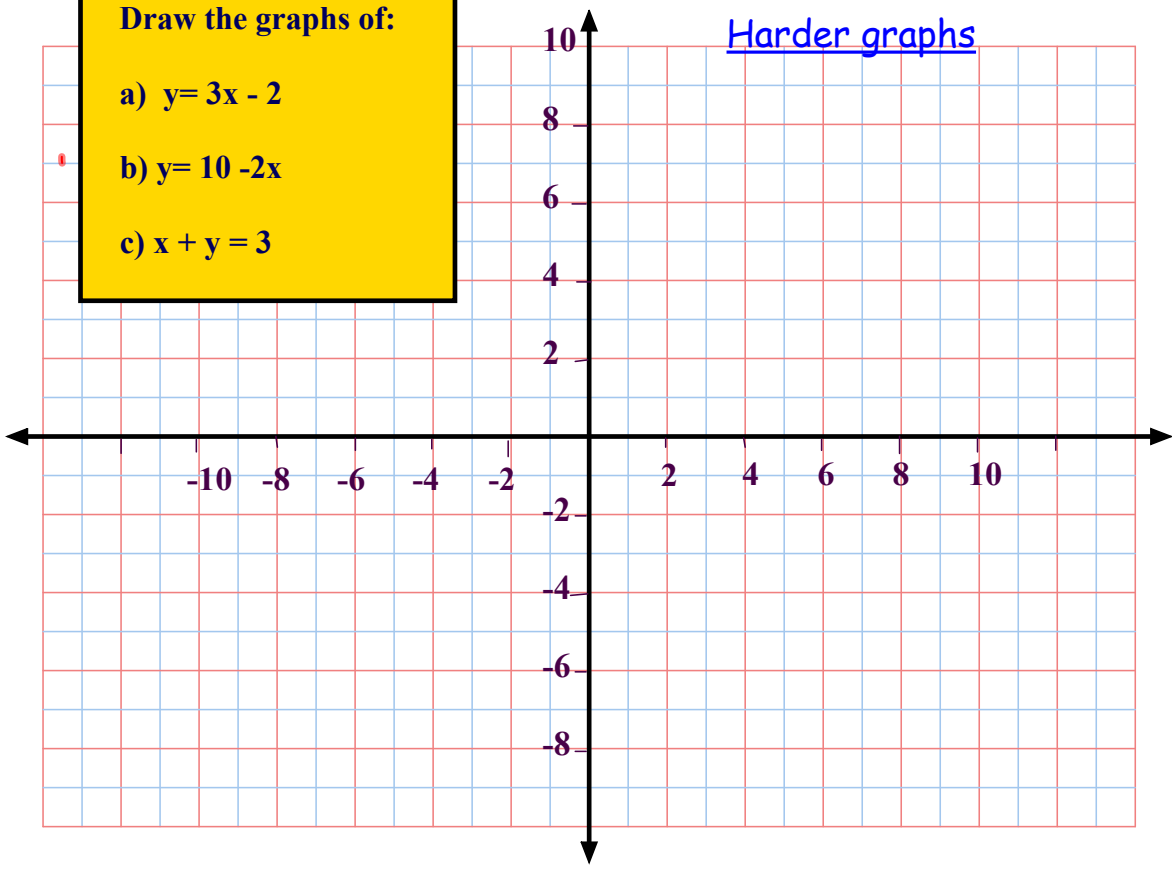
Draw the graphs of:

a) y= 3x - 2

b) y= 10 -2x

c) x + y = 3

Harder graphs



x	y
0	
1	
2	
3	
4	

y=3x-2

x	y
0	
1	
2	
3	
4	

y=10-2x

x	y
0	
1	
2	
3	
4	

x+y = 3

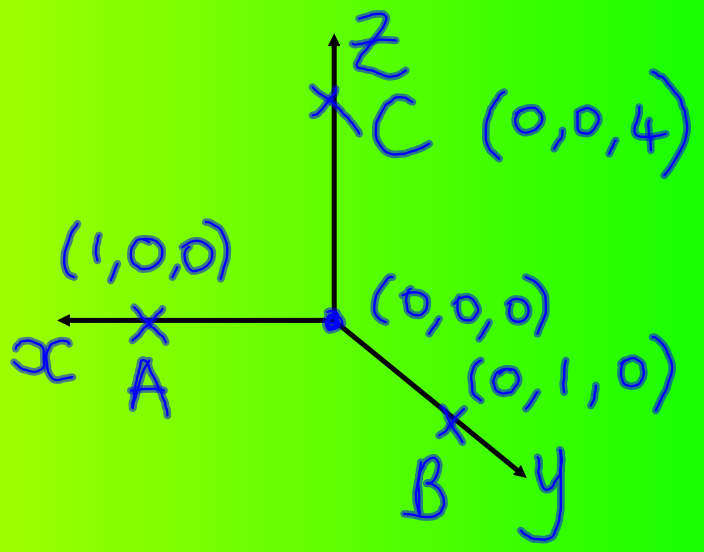
Draw the graphs of:

a) y= 3x - 2

b) y= 10 -2x

c) x + y = 3

3D co-ordinates



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Attachments

gRAPHS Lesson 5.ppt