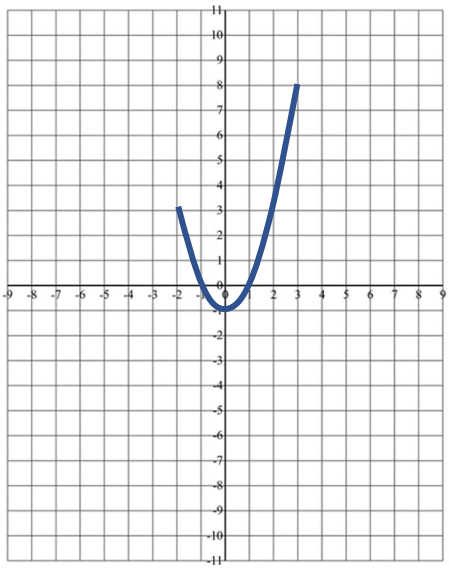
Name:

Use the table of values to help you plot the following quadratic graphs:

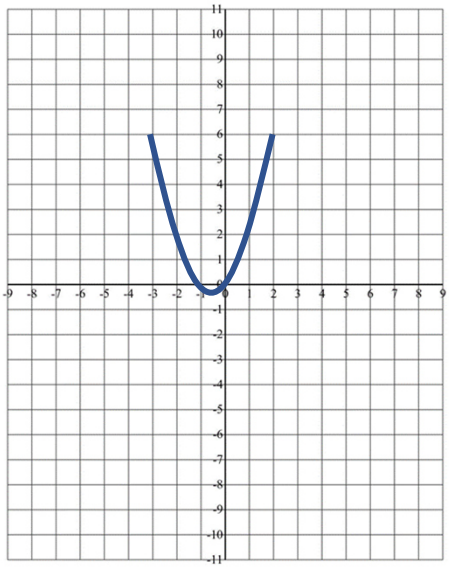
a) $y = x^2 - 1$

x	-2	-1	0	1	2	3
y	3	0	-1	0	3	8



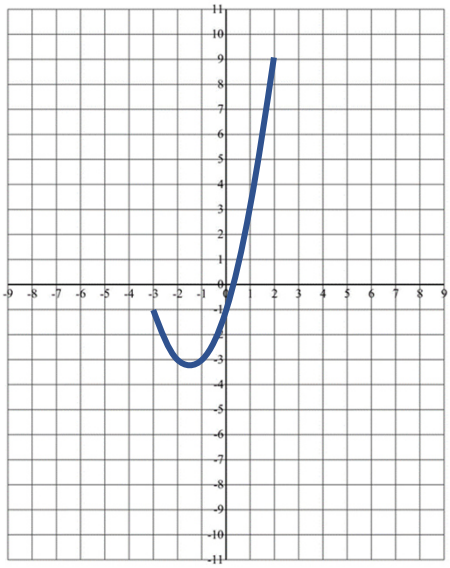
b) $y = x^2 + x$

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



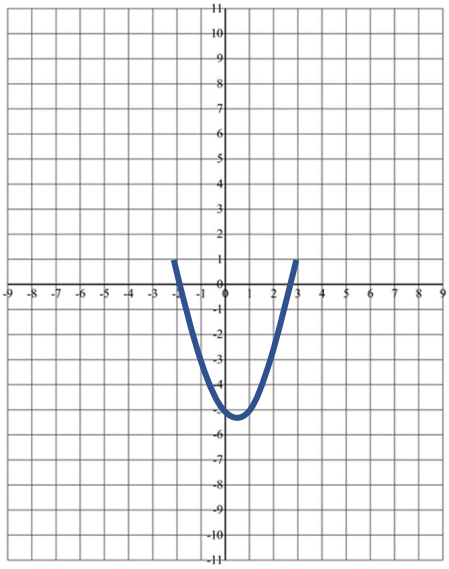
c) $y = y = x^2 + 3x - 1$

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



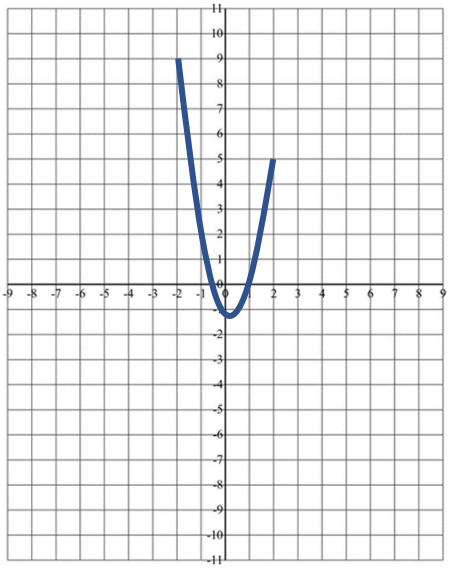
d) $y = x^2 - x - 5$

x	-2	-1	0	1	2	3
y	1	-3	-5	-5	-3	1



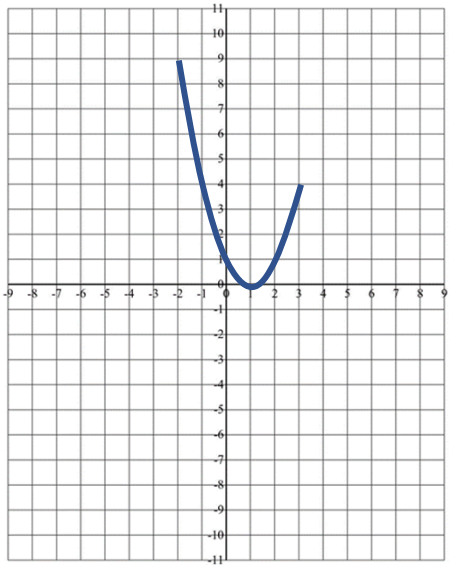
e) $y = 2x^2 - x - 1$

x	-2	-1	0	1	2
y	9	2	-1	0	5



f) $y = x^2 - 2x + 1$

x	-2	-1	0	1	2	3
y	9	4	1	0	1	4



Exam question:

Complete the table of values for $y = x^2 + 5x - 3$

x	-3	-2	-1	0	1	2	3
y	-9	-9	-7	-3	3	11	21

Estimating solutions from graphs

61b

Name:

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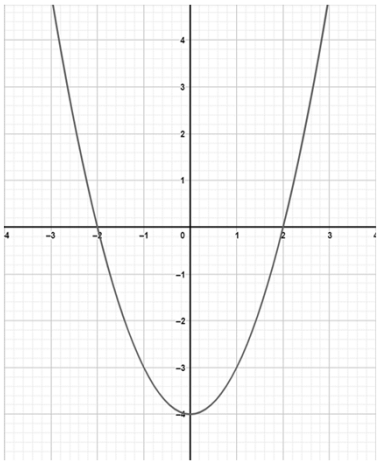
Use the quadratic graphs shown to...

This is the graph of $y = x^2 - 4$



estimate the solutions of:

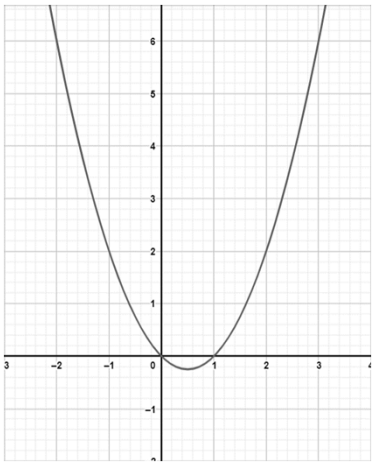
a) $x^2 - 4 = 3$

x = -2.6 or x = 2.6

b) $x^2 - 4 = -2$

x = -1.4 or x = 1.4

This is the graph of $y = x^2 + 1$



estimate the solutions of:

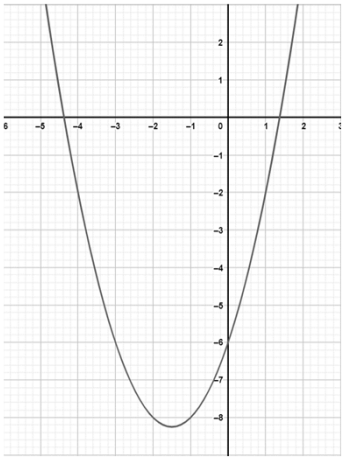
c) $x^2 + 1 = 3$

x = -1.3 or x = 2.3

d) $x^2 + 1 = 6$

x = -2 or x = 3

This is the graph of $y = y = x^2 + 3x - 6$



estimate the solutions of:

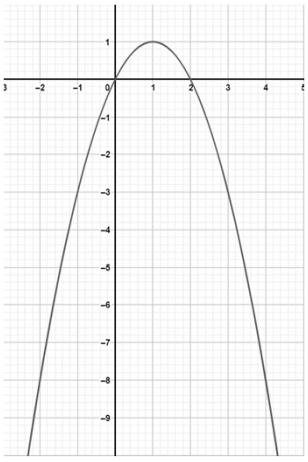
e) $x^2 + 3x - 6 = 0$

x = -4.4 or x = 1.4

f) $x^2 + 3x = 2$

x = -3.6 or x = 0.6

This is the graph of $y = 2x - x^2$



estimate the solutions of:

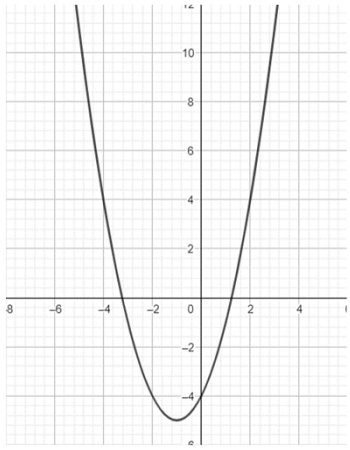
e) $2x - x^2 = -3$

x = -1 or x = 3

f) $2x - x^2 + 5 = 0$

x = -1.5 or x = 3.5

This is the graph of $y = y = x^2 + 2x - 4$



estimate the solutions of:

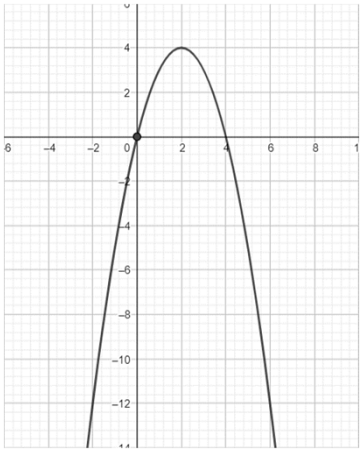
e) $x^2 + 2x - 4 = 4$

x = -4 or x = 2

f) $x^2 + 2x = 4$

x = -3.2 or x = 1.2

This is the graph of $y = 4x - x^2$



estimate the solutions of:

e) $4x - x^2 = 0$

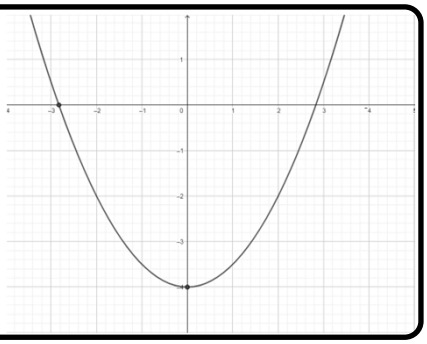
x = 0 or x = 4

f) $4x - x^2 + 12 = 0$

x = -2 or x = 6

Exam question:

This is the graph of $y = \frac{1}{2}x^2 - 4$



Use the graph to estimate the solutions of:

$\frac{1}{2}x^2 - 4 = -2$

x = -2 or x = 2

Solving simultaneous equations from quadratic graphs

61c

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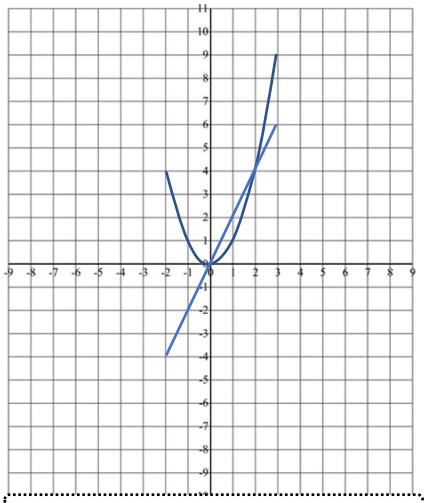
Name:

By plotting the graphs, estimate the solutions of these simultaneous equations:

a) $y = x^2$ and $y = 2x$

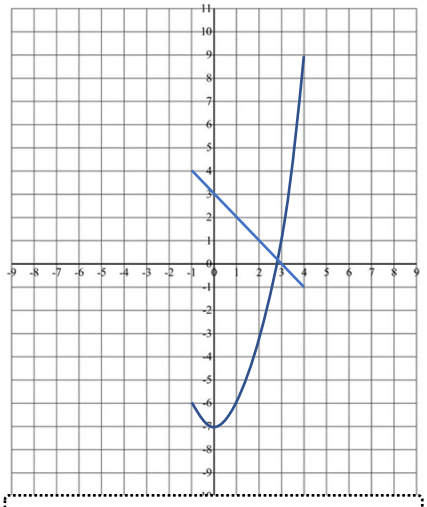
x	−2	−1	0	1	2	3
y	4	1	0	1	4	9
y	-4	-2	0	2	4	6



x = 0, y = 0 or x = 2, y = 4

b) $y = x^2 - 7$ and $y = 3 - x$

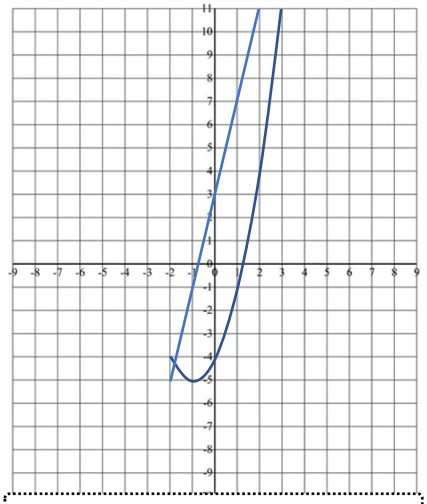
x	−1	0	1	2	3	4
y	-6	-7	-6	-3	2	9
y	4	3	2	1	0	-1



x = 2.7, y = 0.3

c) $y = x^2 + 2x - 4$ and $y = 4x + 3$

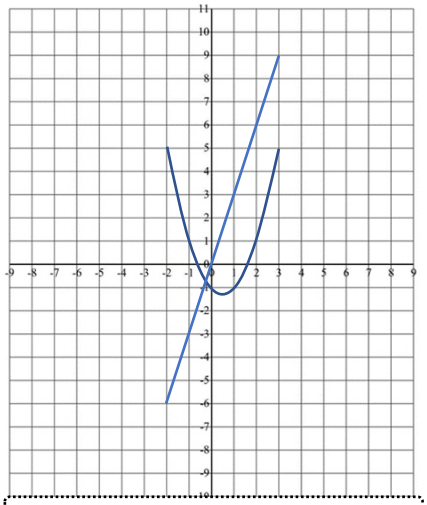
x	−2	−1	0	1	2	3
y	-4	-5	-4	-1	4	11
y	-5	-1	3	7	11	15



x = -1.8, y = -4.3

d) $y = x^2 - x - 1$ and $y = 3x$

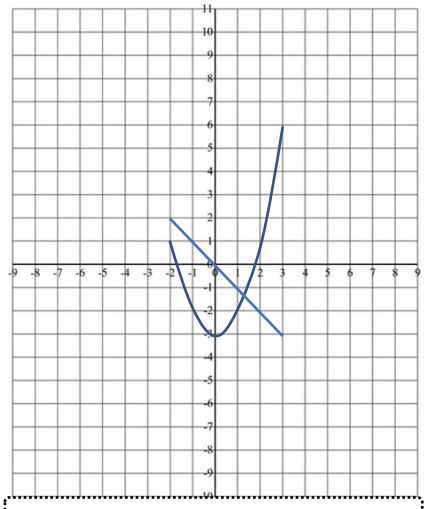
x	−2	−1	0	1	2	3
y	5	1	-1	-1	1	5
y	-6	-3	0	3	6	9



x = -0.2, y = -0.7

e) $y = x^2 - 3$ and $y = -x$

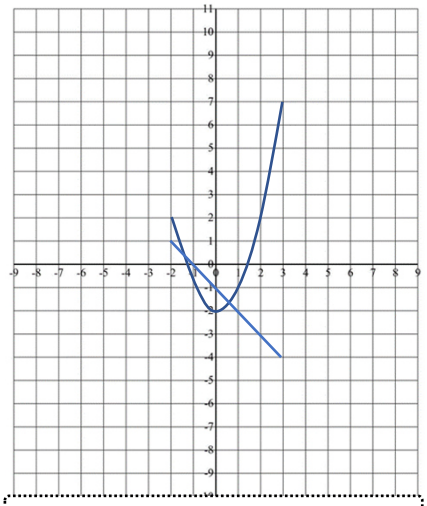
x	−2	−1	0	1	2	3
y	1	-2	-3	-2	1	6
y	2	1	0	-1	-2	-3



x = 1.3, y = -1.3

f) $y = x^2 - 2$ and $y = -x - 1$

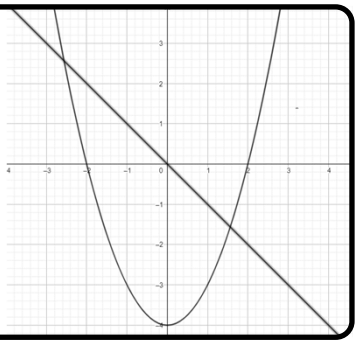
x	−2	−1	0	1	2	3
y	2	-1	-2	-1	2	7
y	1	0	-1	-2	-3	-4



x = -1.6, y = 0.6 or x = 0.6, y = -1.6

Exam question:

Estimate the following solutions of the two equations simultaneously using the graphs given of:
$y = x^2 - 4$ and $y = -x$



x = -2.6, y = 2.6 or x = 1.6, y = -1.6