

ALGEBRA: DRAWING & USING CUBIC GRAPHS

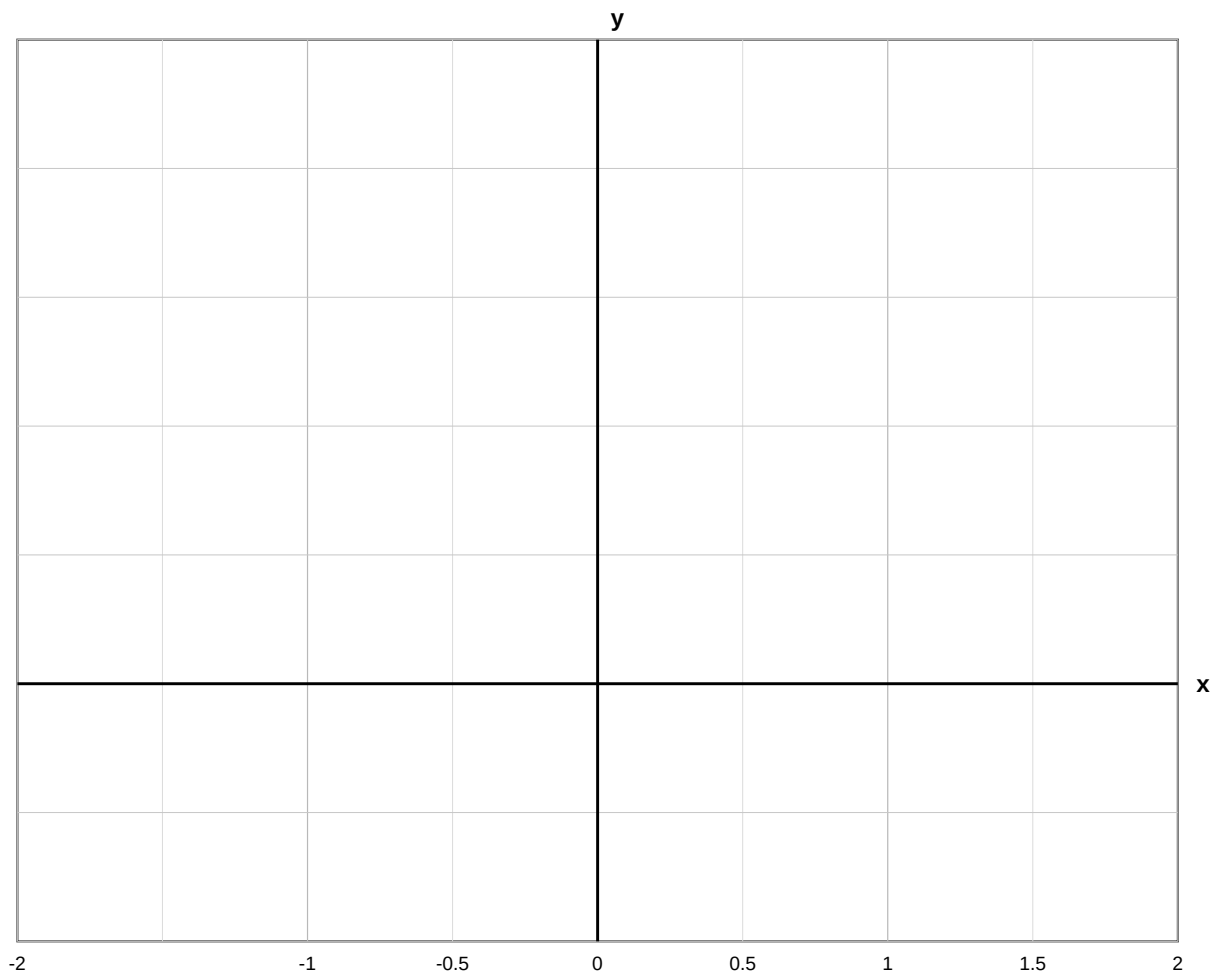
Best Guess Mastery Worksheet (Target Grade 6/7)

I Do

(a) Complete the table of values for $y = x^3 - 3x + 1$.

x	-2	-1	-0.5	0	0.5	1	1.5	2
y		3	2.4			-1	-0.1	

(b) On the grid, draw $y = x^3 - 3x + 1$ for $-2 \leq x \leq 2$.



(c) Draw a suitable straight line and use your graph to solve $x^3 - 3x - 1 = 0$. Give each answer correct to one decimal place.

x = _____

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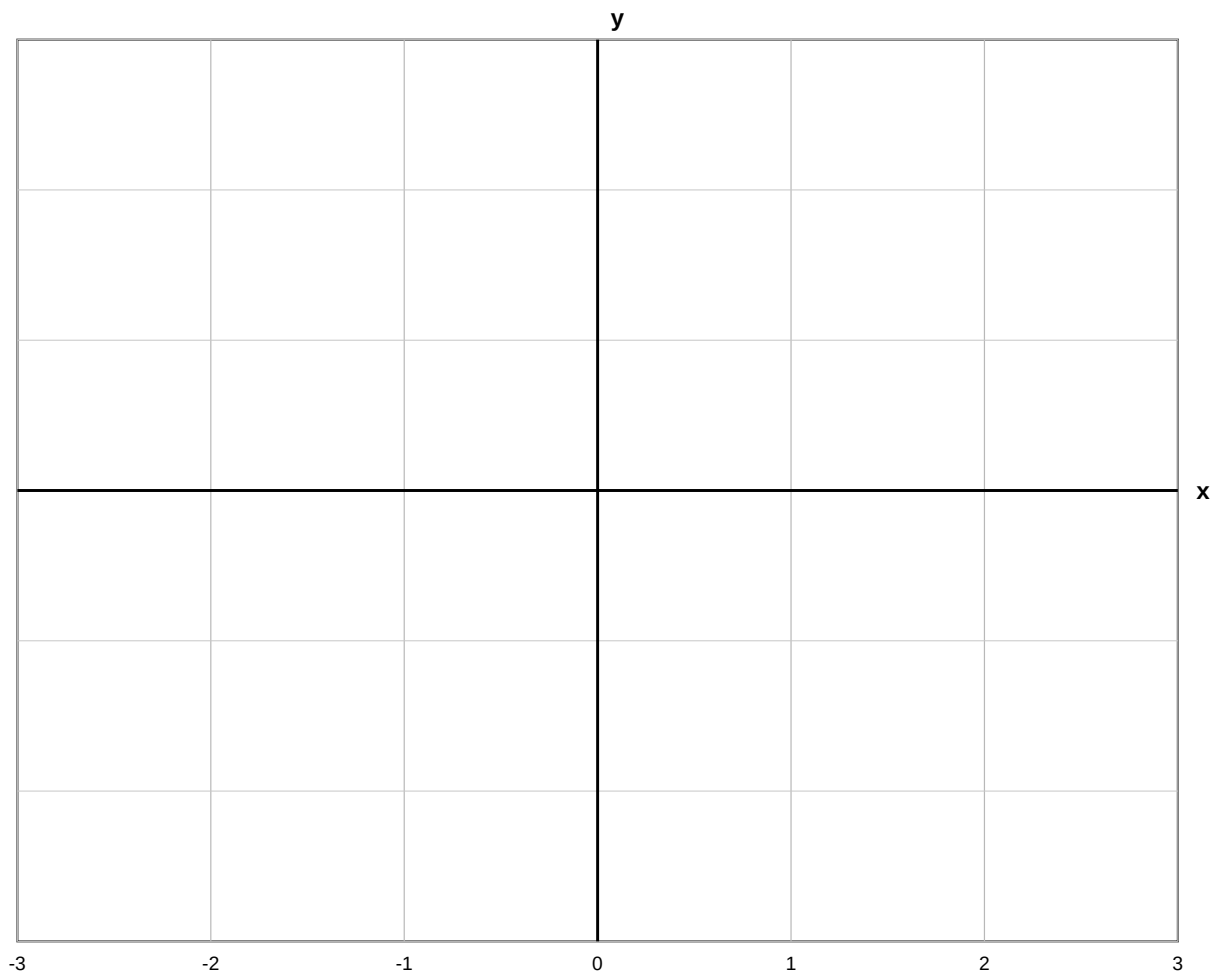
Best Guess Mastery Worksheet (Target Grade 6/7)

We Do

(a) Complete the table of values for $y = x^3 - 4x$.

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

(b) On the grid, draw $y = x^3 - 4x$ for $-3 \leq x \leq 3$.



(c) Draw a suitable straight line and use your graph to solve $x^3 - 4x - 2 = 0$. Give each answer correct to one decimal place.

x = _____

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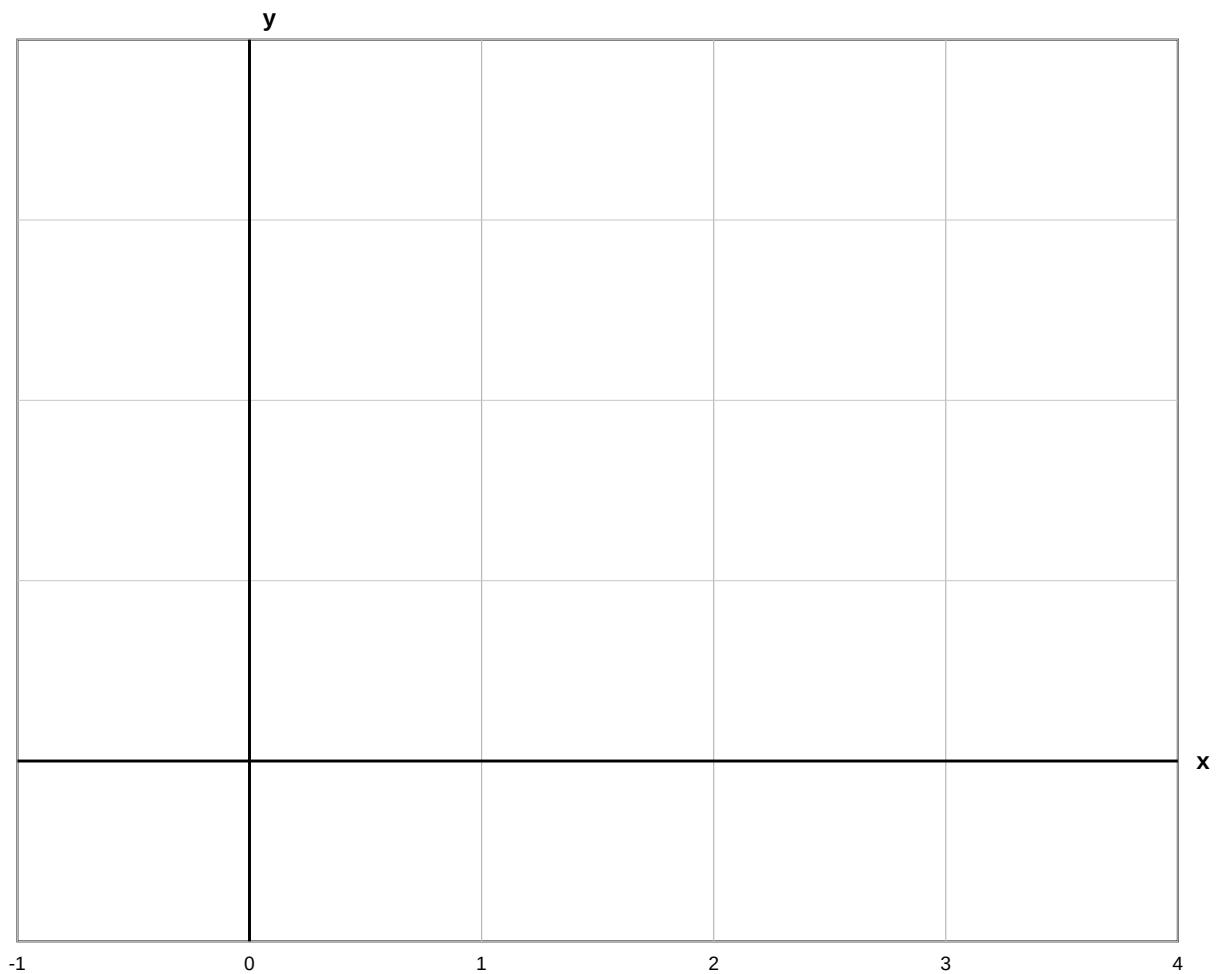
Best Guess Mastery Worksheet (Target Grade 6/7)

You Do 1

(a) Complete the table of values for $y = x^3 - 3x^2 + 2$.

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

(b) On the grid, draw $y = x^3 - 3x^2 + 2$ for $-1 \leq x \leq 4$.



(c) Draw a suitable straight line and use your graph to solve $x^3 - 3x^2 + 4 = 0$. Give each answer correct to one decimal place.

x = _____

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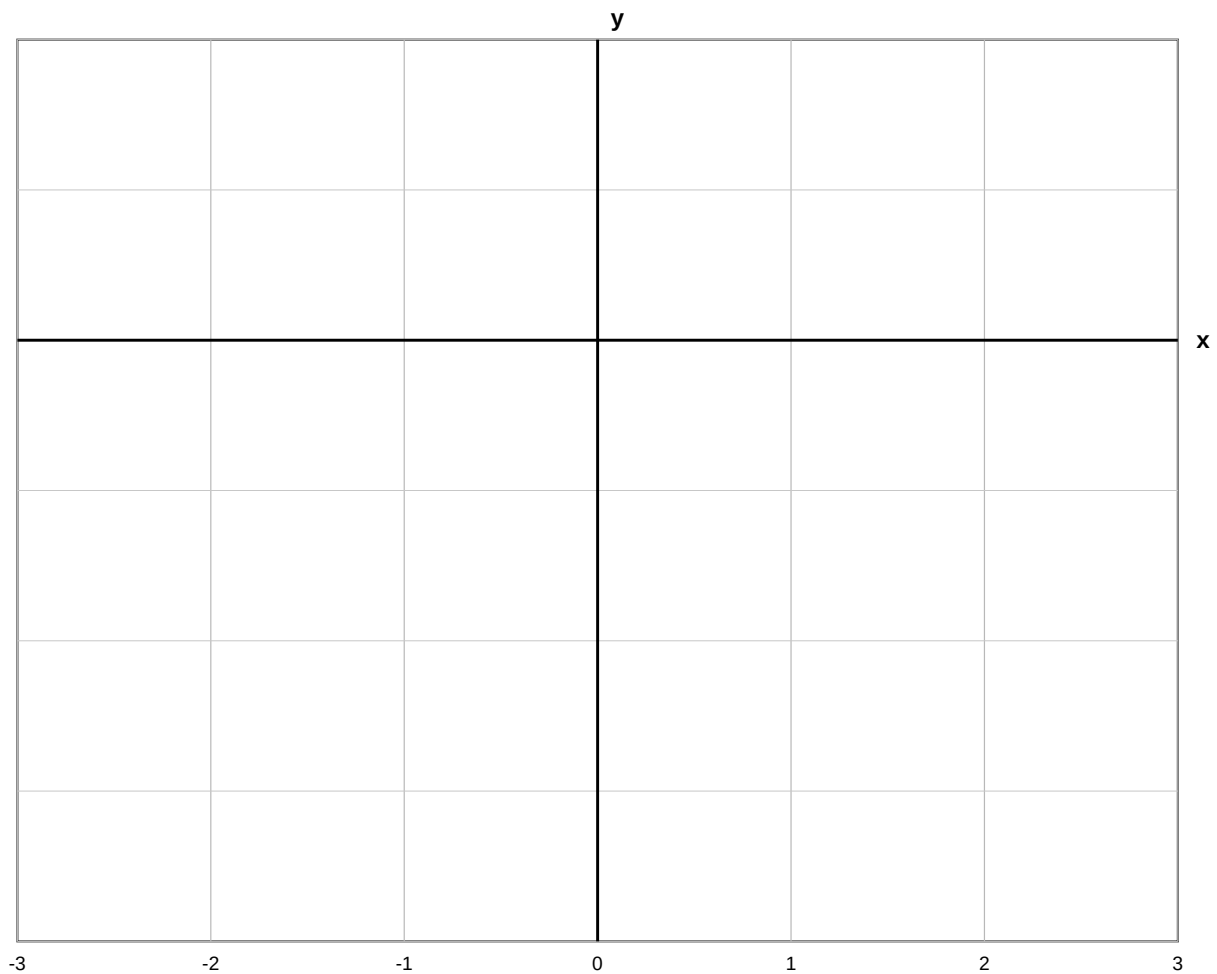
Best Guess Mastery Worksheet (Target Grade 6/7)

You Do 2

(a) Complete the table of values for $y = x^3 - x^2 - 4x + 4$.

x	-3	-2	-1	0	1	2	3
y		0	6		0		10

(b) On the grid, draw $y = x^3 - x^2 - 4x + 4$ for $-3 \leq x \leq 3$.



(c) Draw a suitable straight line and use your graph to solve $x^3 - x^2 - 4x = 0$. Give each answer correct to one decimal place.

x = _____

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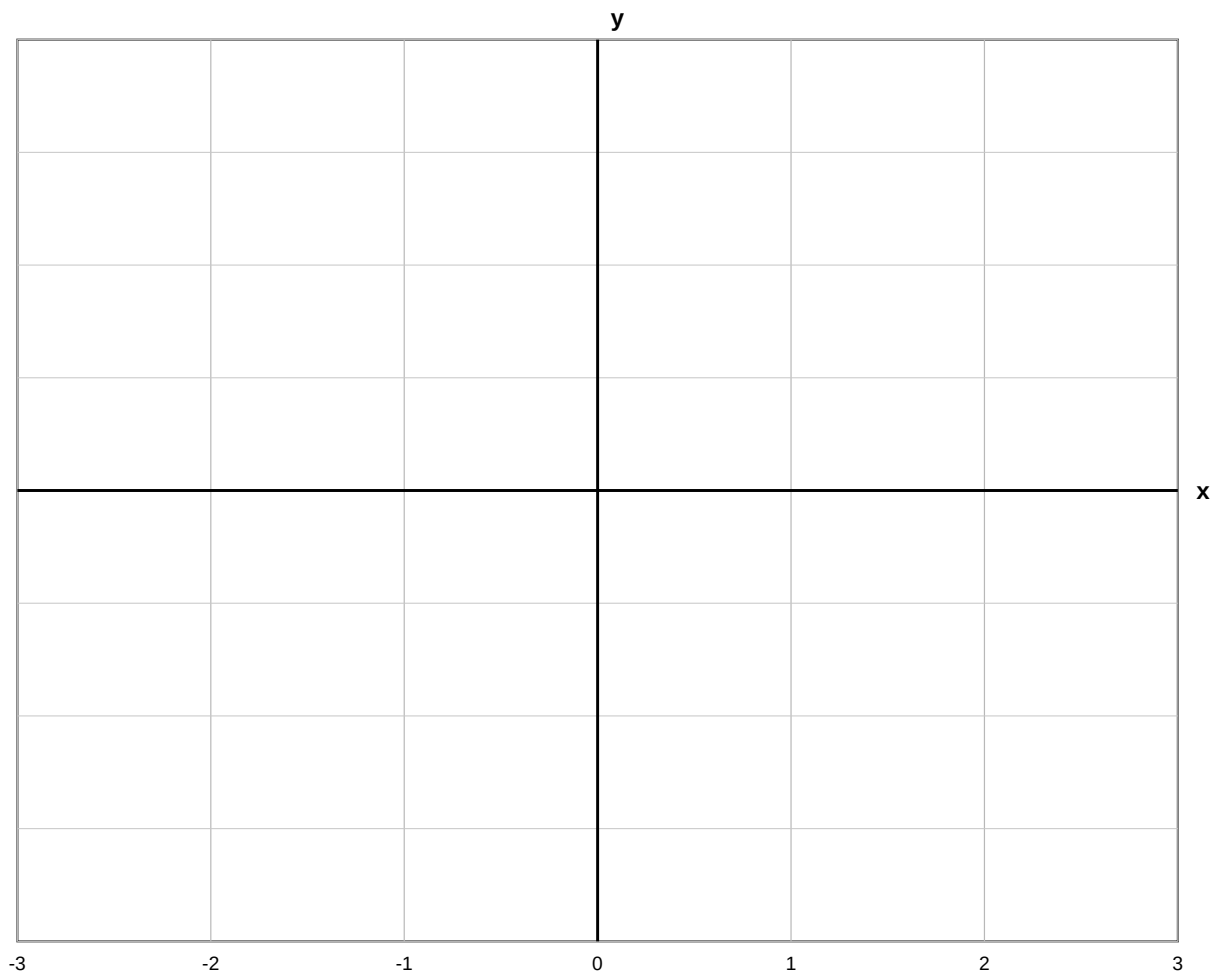
Best Guess Mastery Worksheet (Target Grade 6/7)

Challenge 1

(a) Complete the table of values for $y = -x^3 + 3x + 2$.

x	-3	-2	-1	0	1	2	3
y	20		0		4		-16

(b) On the grid, draw $y = -x^3 + 3x + 2$ for $-3 \leq x \leq 3$.



(c) Draw a suitable straight line and use your graph to solve $-x^3 + 3x - 1 = 0$. Give each answer correct to one decimal place.

x = _____

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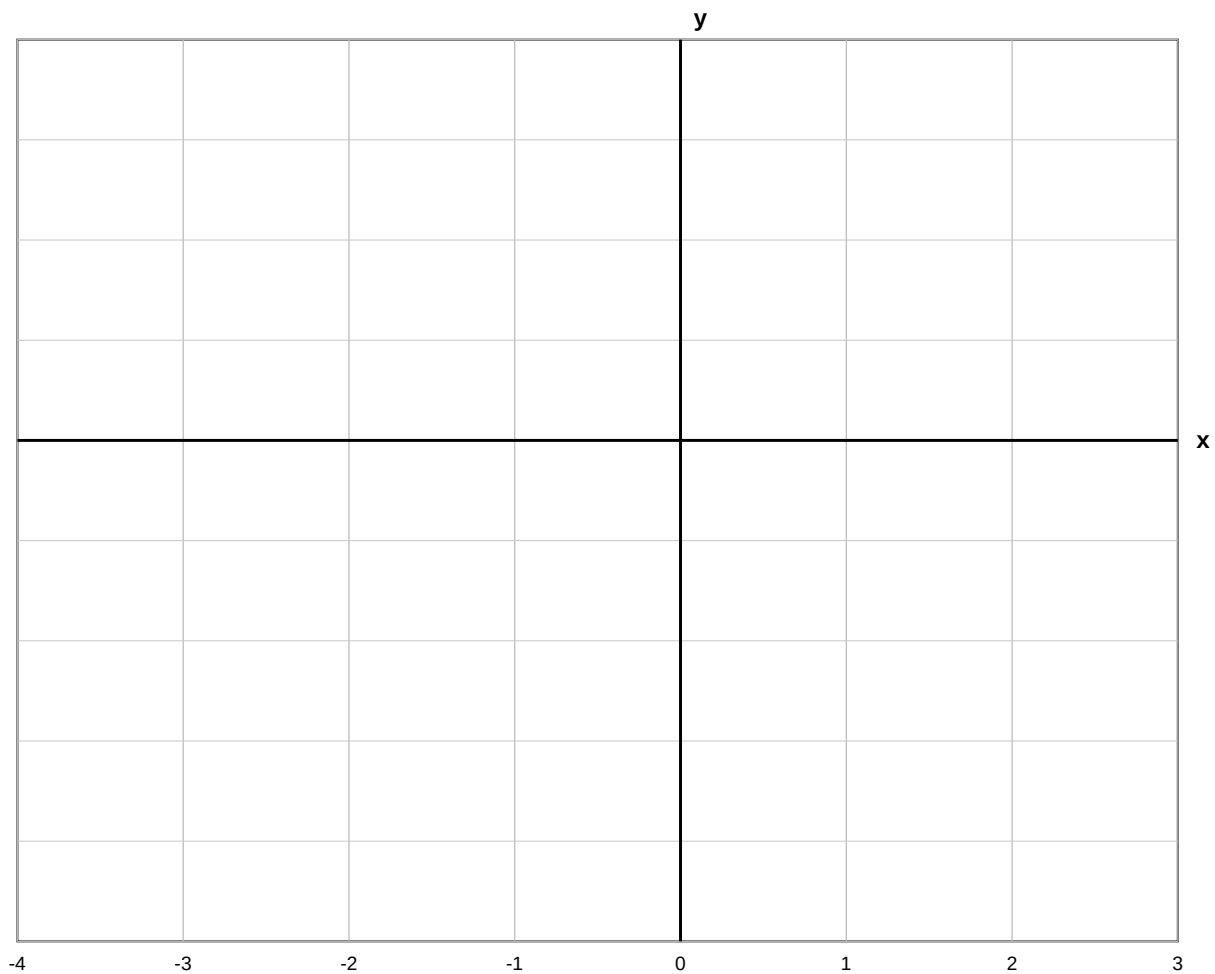
Best Guess Mastery Worksheet (Target Grade 6/7)

Challenge 2

(a) Complete the table of values for $y = -x^3 - 2x^2 + 5x + 6$.

x	-4	-3	-2	-1	0	1	2	3
y	18		-4	0		8		-24

(b) On the grid, draw $y = -x^3 - 2x^2 + 5x + 6$ for $-4 \leq x \leq 3$.



(c) Draw a suitable straight line and use your graph to solve $-x^3 - 2x^2 + 5x + 3 = 0$. Give each answer correct to one decimal place.

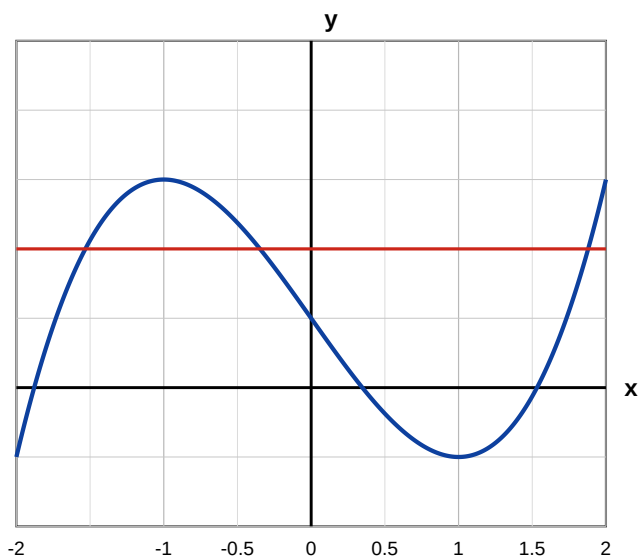
x = _____

ALGEBRA: DRAWING & USING CUBIC GRAPHS

Worked solutions and correctly plotted graphs - page 1 of 2

I Do

$$y = x^3 - 3x + 1$$



Completed y-values:

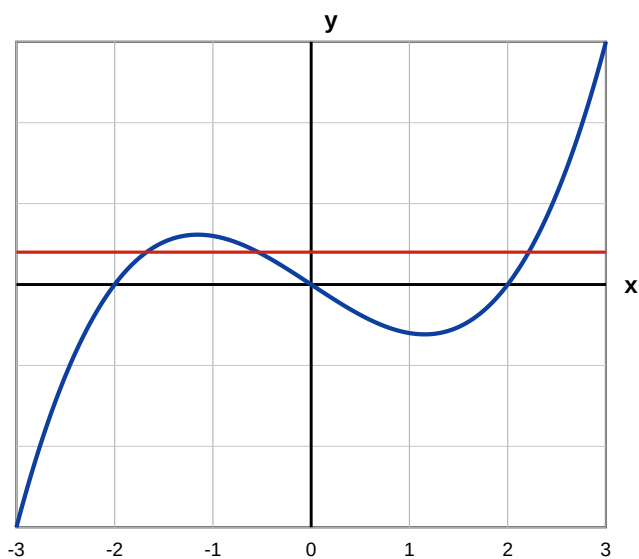
-1, 3, 2.4, 1, -0.4, -1, -0.1, 3

Suitable line: $y = 2$

Solutions: $x = -1.5, -0.3, 1.9$

We Do

$$y = x^3 - 4x$$



Completed y-values:

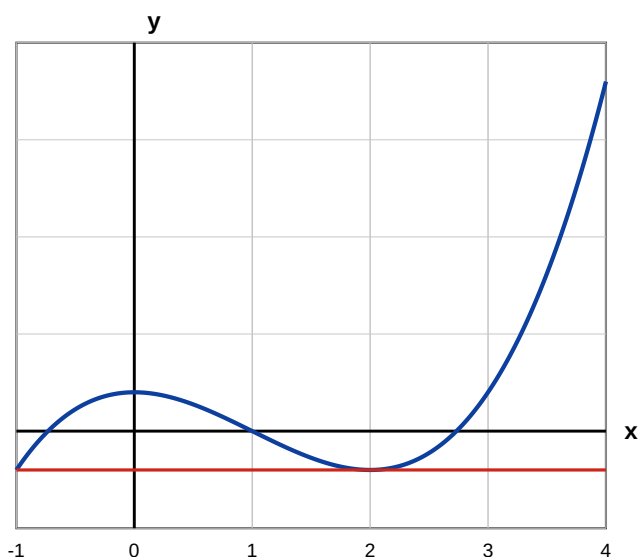
-15, 0, 3, 0, -3, 0, 15

Suitable line: $y = 2$

Solutions: $x = -1.7, -0.5, 2.2$

You Do 1

$$y = x^3 - 3x^2 + 2$$



Completed y-values:

-2, 2, 0, -2, 2, 18

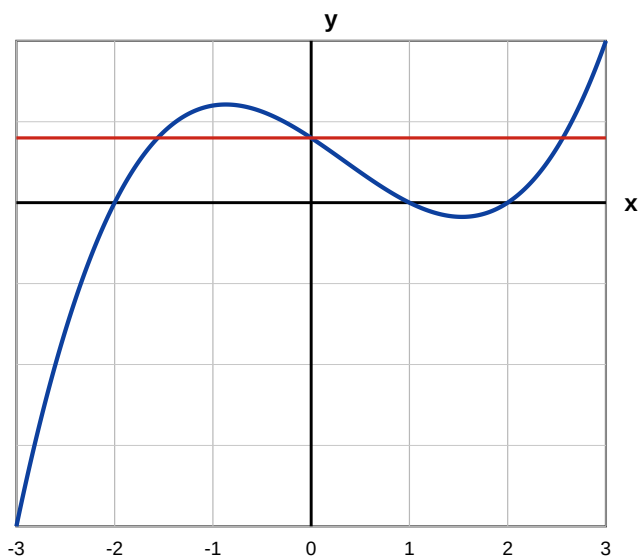
Suitable line: $y = -2$

Solutions: $x = -1.0, 2.0$

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Worked solutions and correctly plotted graphs - page 2 of 2

You Do 2 $y = x^3 - x^2 - 4x + 4$



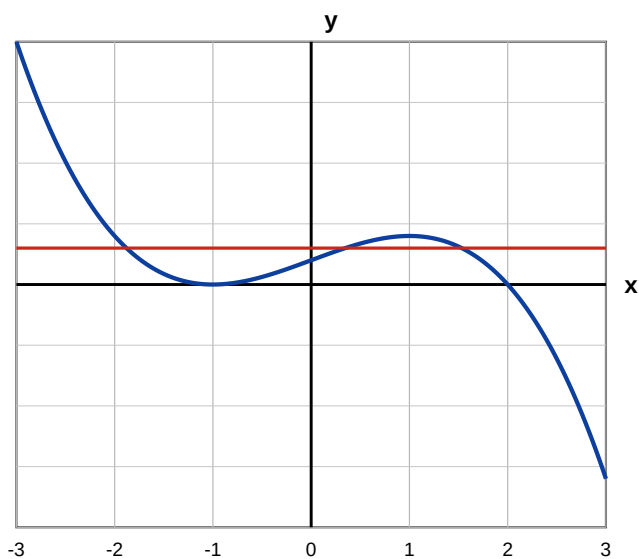
Completed y-values:

-20, 0, 6, 4, 0, 0, 10

Suitable line: $y = 4$

Solutions: $x = -1.6, 0.0, 2.6$

Challenge 1 $y = -x^3 + 3x + 2$



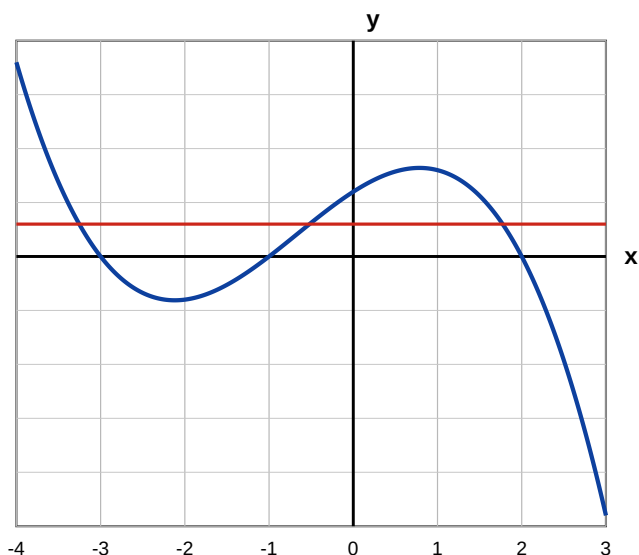
Completed y-values:

20, 4, 0, 2, 4, 0, -16

Suitable line: $y = 3$

Solutions: $x = -1.9, 0.3, 1.5$

Challenge 2 $y = -x^3 - 2x^2 + 5x + 6$



Completed y-values:

18, 0, -4, 0, 6, 8, 0, -24

Suitable line: $y = 3$

Solutions: $x = -3.3, -0.5, 1.8$