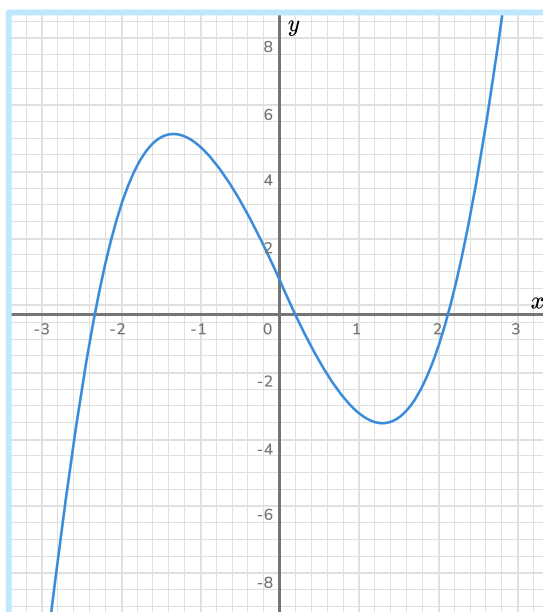# Cubic Graphs Worksheet

Algebra

Grades 9 to 12

Skill Questions

1 Use the graph of $y = x^3 - 5x + 1$ to find an approximate solution of the following equation
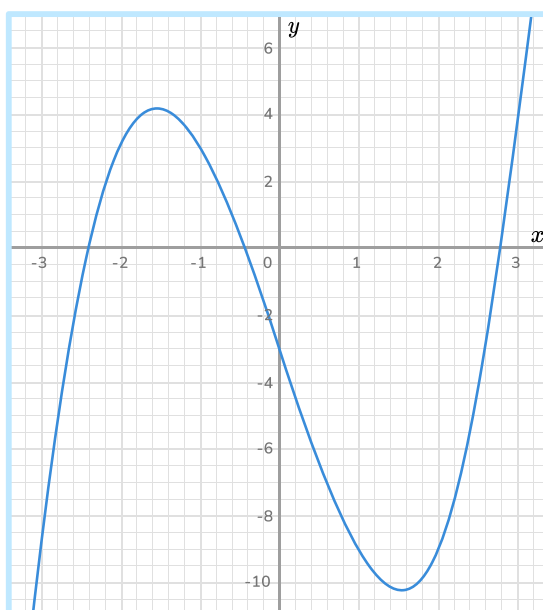
$$x^3 - 5x + 1 = 6$$

Answer

2 Use the graph of $y = x^3 - 7x - 3$ to find approximate solutions of the following equation
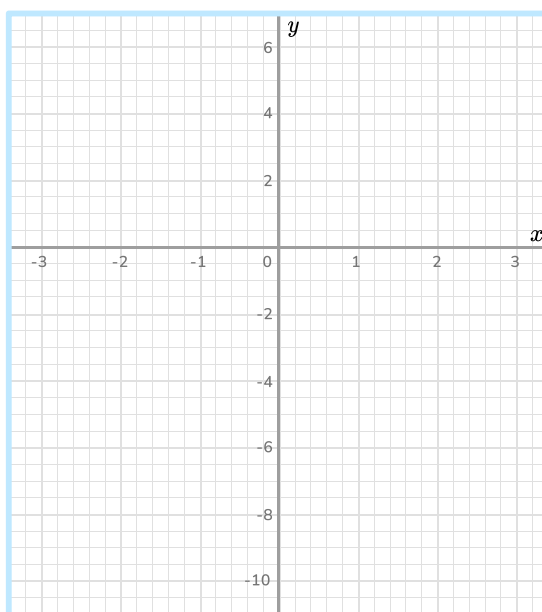
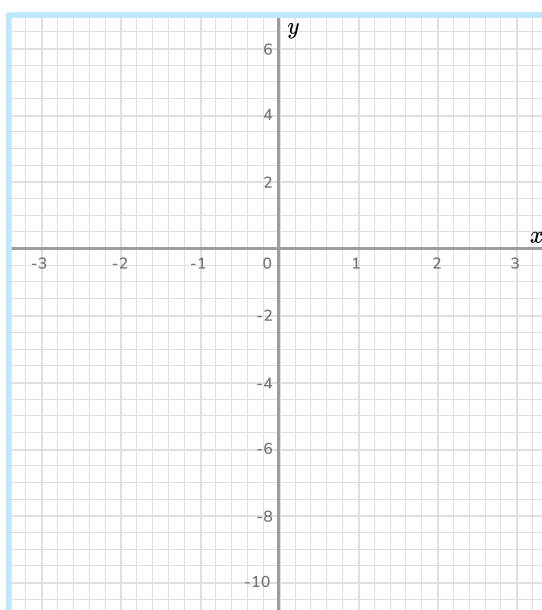$$x^3 - 7x - 3 = 2$$

Answer

Skill Questions

3 Draw the curve of the equation for $-2 \leq x \leq 2$

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

4 Draw the curve of the equation for $-3 \leq x \leq 3$
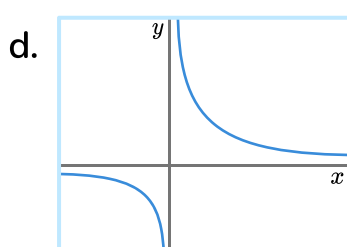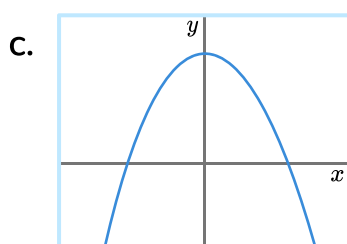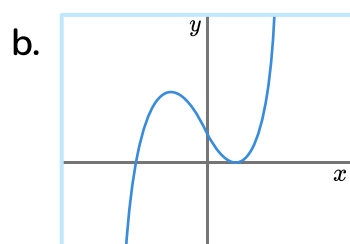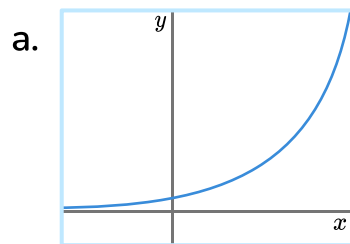
$$y = x^3 - 6x + 1$$

Cubic Graphs Worksheet | Grades 9 to 12

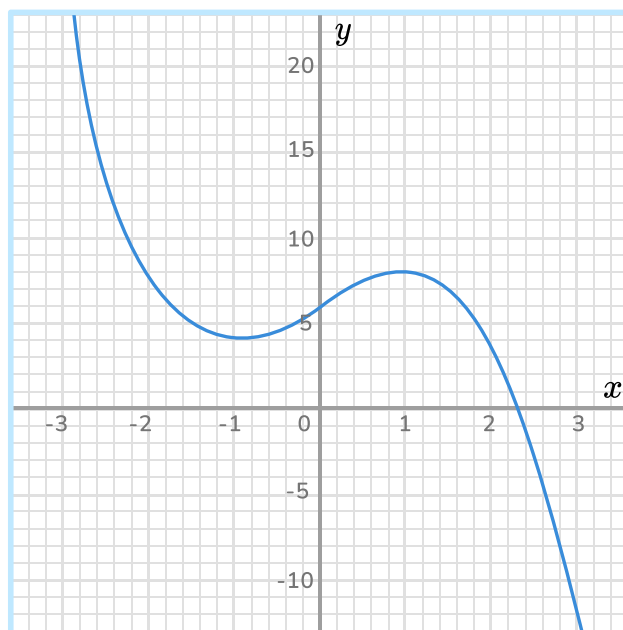**5** Identify the correct graph for the equation below

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

a.

b.

c.

d.

Answer

6 Use the graph of $y = 6 + 3x - x^3$ to solve
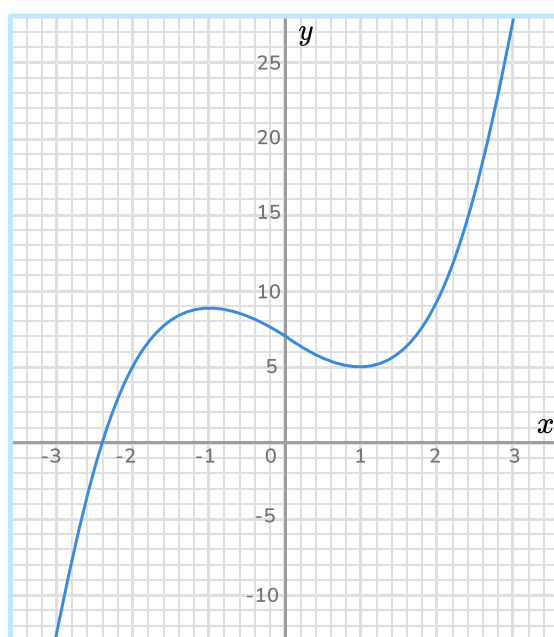
$$6 + 3x - x^3 = 2$$

Answer

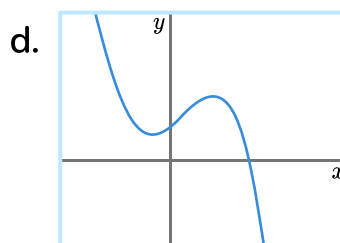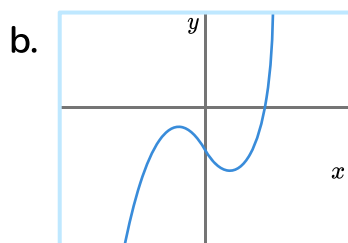**7** Use the graph of $y = x^3 - 3x + 7$ to solve

$$x^3 - 3x + 7 = 4$$
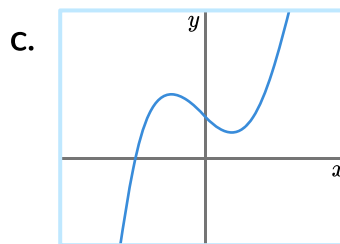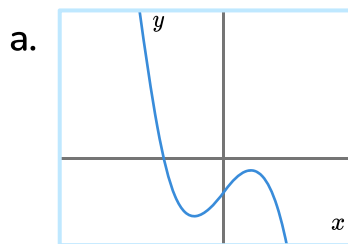

Answer

8   Identify the correct graph for the equation below

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

a.

c.

b.

d.

Answer

9   Identify the correct graph for the equation below

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

a.

c.

b.

d.

Answer

Cubic Graphs Worksheet | Grades 9 to 12

10 Identify the correct graph for the equation below

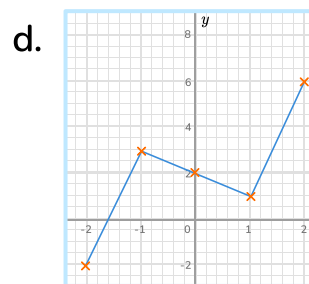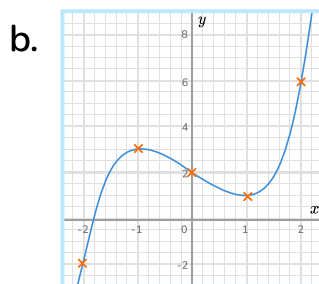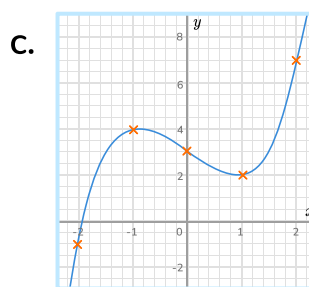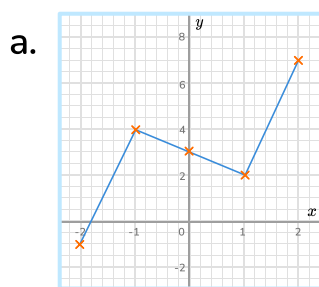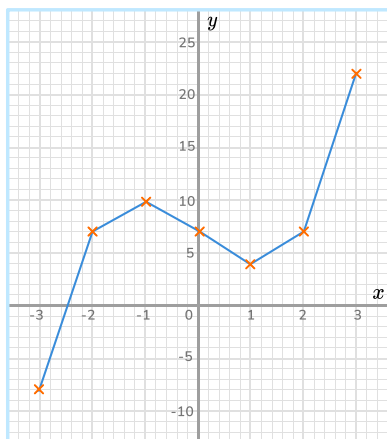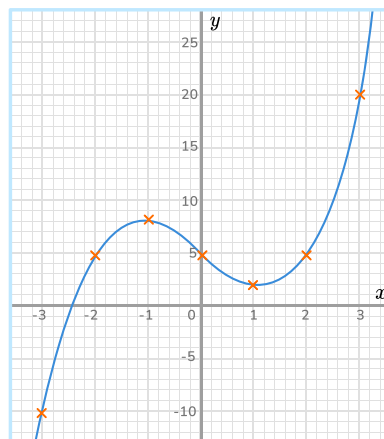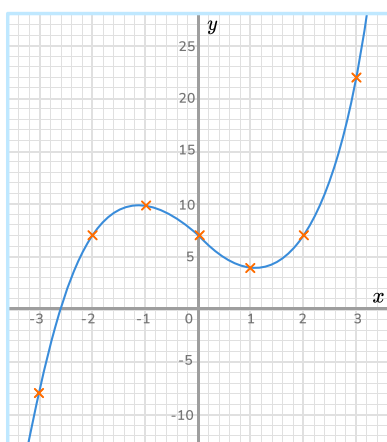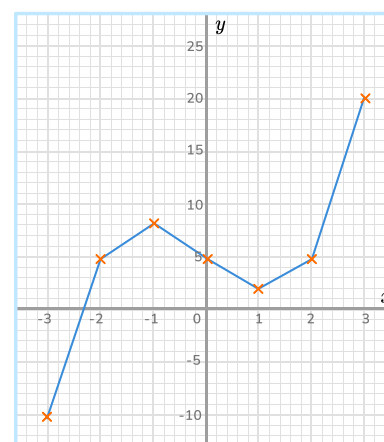$$y = x^3 - 4x + 5$$

a.
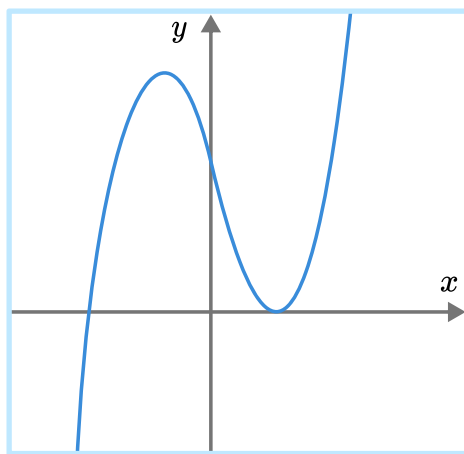

c.

b.

d.

Answer

Applied Questions

11 Here is a sketch of the graph of a function: Identify the equation of the function

A. $y = x^2 + 3x + 2$

B. $y = \dfrac{3}{x}$

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

D. $y = 3^x$

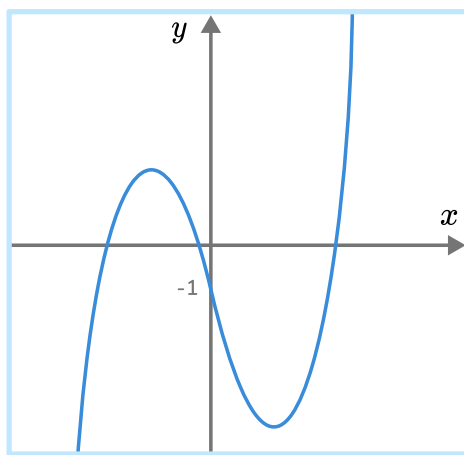*Answer*

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12 Here is a sketch of the graph of a function: Identify the equation of the function

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

B. $y = -x^3 - 3x + 1$
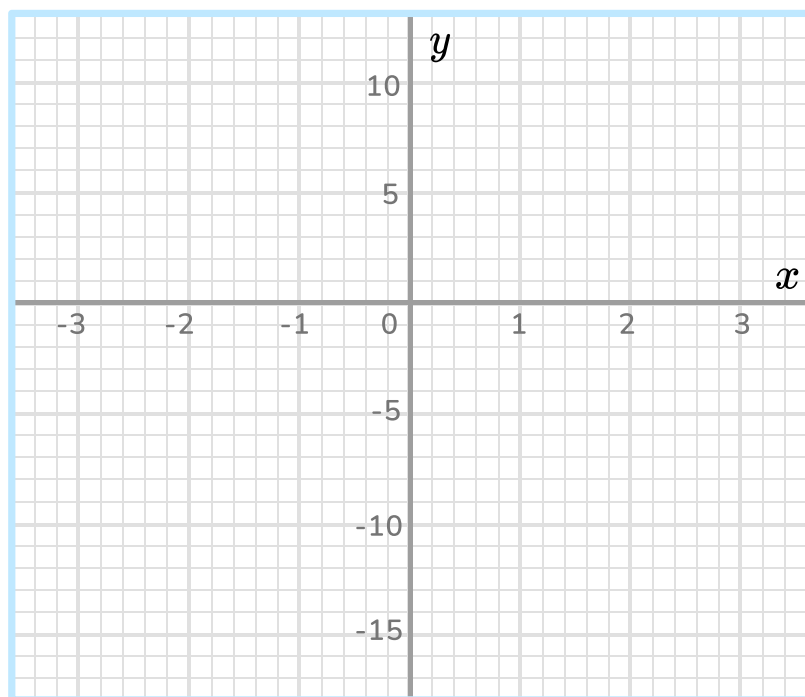
C. $y = x^3 - 3x - 1$

D. $y = x^3 + 3x + 1$

Answer

---

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

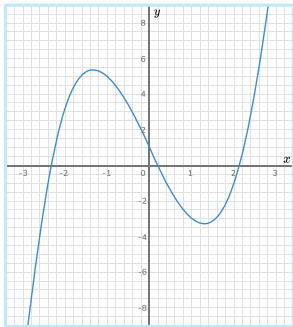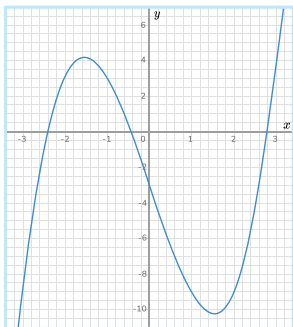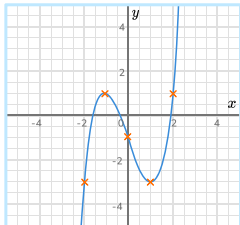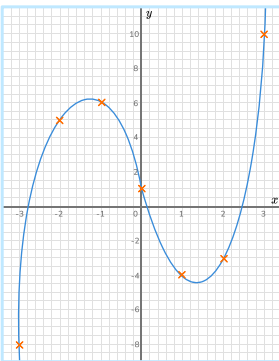| x	-3	-2	-1	0	1	2	3
y	-15	-1			-7		9

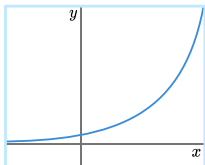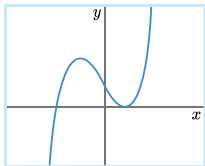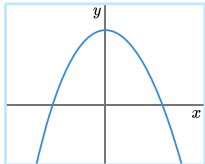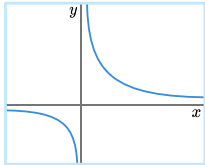**14** On the grid, draw the graph of $y = x^3 - 5x - 3$ for $-3 \leq x \leq 3$
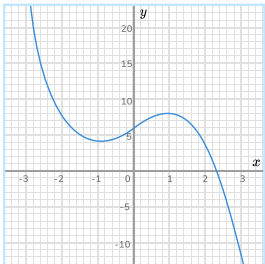

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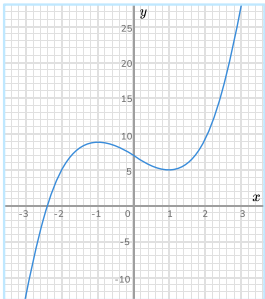
15 Use the graph in question 4 to find an approximate solution for

$$x^3 - 5x - 3 = 5$$

Answer
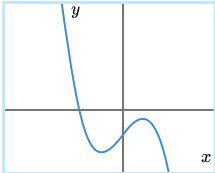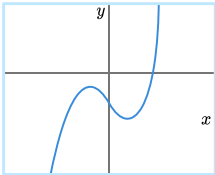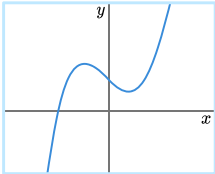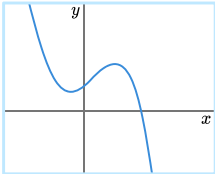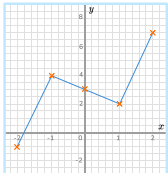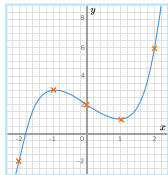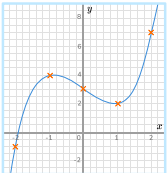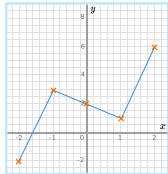
Answers

Question number	Question	Answers	Standard
1	Use the graph of $y = x^3 - 5x + 1$ to find an approximate solution of the following equation $x^3 - 5x + 1 = 6$	$x = 2.6$	HSF.IF.C.7
2	Use the graph of $y = x^3 - 7x - 3$ to find approximate solutions of the following equation $x^3 - 7x - 3 = 2$	$x = -2.2 , -0.8$ and 2.9	HSF.IF.C.7
3	Draw the curve of the equation for $-2 \le x \le 2$ $y = x^3 - 3x - 1$		HSF.IF.C.7
4	Draw the curve of the equation for $-3 \le x \le 3$ $y = x^3 - 6x + 1$		HSF.IF.C.7
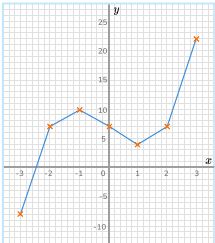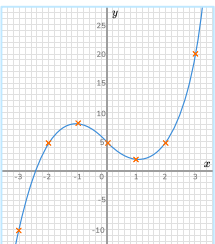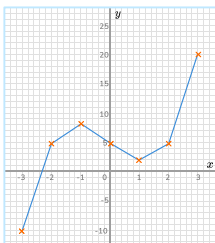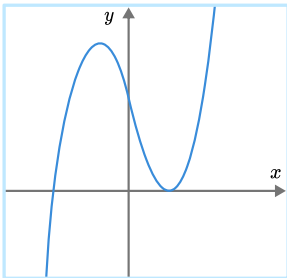
Question number	Question	Answers	Standard
5	Identify the correct graph for the equation below $y = x^3 - 3x + 2$ a. b. c. d.	b	HSF.IF.C.7
6	Use the graph of $y = 6 + 3x - x^3$ to solve $6 + 3x - x^3 = 2$ 	$x = 2.2$	HSF.IF.C.7
7	Use the graph of $y = x^3 - 3x + 7$ to solve $x^3 - 3x + 7 = 4$ 	$x = -2.1$	HSF.IF.C.7
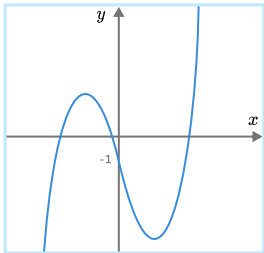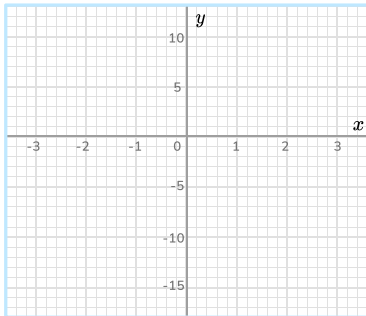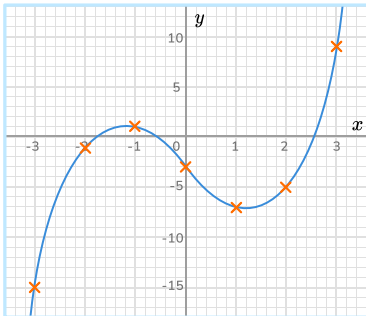
Cubic Graphs Worksheet | Grades 9 to 12 | Answers

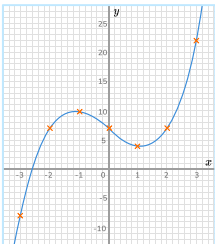| Question number	Question	Answers	Standard
8	Identify the correct graph for the equation below $y = -x^3 + 2x - 3$ a. b. c. d.	a	HSF.IF.C.7
9	Identify the correct graph for the equation below $y = x^3 - 2x + 3$ a. b. c. d.	c	HSF.IF.C.7

Cubic Graphs Worksheet | Grades 9 to 12 | Answers

Question number	Question	Answers	Standard
10	Identify the correct graph for the equation below $$y = x^3 - 4x + 5$$	c	HSF.IF.C.7
11	Here is a sketch of the graph of a function: Identify the equation of the function A. $y = x^2 + 3x + 2$ B. $y = \dfrac{3}{x}$ C. $y = x^3 - 3x + 2$ D. $y = 3^x$	c. $y = x^3 - 3x + 2$	HSF.IF.C.7

Cubic Graphs Worksheet | Grades 9 to 12 | Answers

Question number	Question	Answers	Standard
12	Here is a sketch of the graph of a function: Identify the equation of the function A. $y = -x^3 + 3x - 1$ B. $y = -x^3 - 3x + 1$ C. $y = x^3 - 3x - 1$ D. $y = x^3 + 3x + 1$ 	c. $y = x^3 - 3x - 1$	HSF.IF.C.7
13	Complete the table of values for $y = x^3 - 5x - 3$ 	x	-3	-2	-1	0	1	2	3
---	---	---	---	---	---	---	---
y	-15	-1			-7		9		The correct values are $1, -3$ and -5	HSF.IF.C.7
14	On the grid, draw the graph of $y = x^3 - 5x - 3$ for $-3 \leq x \leq 3$ 		HSF.IF.C.7
15	Use the graph in question 4 to find an approximate solution for $x^3 - 5x - 3 = 5$	$x = 2.8$	HSF.IF.C.7

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