

Graphs Of Functions

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Name: _____

Date: _____

Tick one circle for each statement — on screen (click) or with a pen. Then try the quick checks: write your answer in the box, check it against the answers at the end, and tick “right” when you got it. ★ = IGCSE Extended tier only.

Shapes of graphs

Recognising each type of graph from its equation.

	Don't know	Shaky	Got it
I can recognise linear, quadratic, cubic, reciprocal and exponential graphs.	☐	☐	☐
I can tell which way a quadratic graph opens.	☐	☐	☐
I can recognise key points of an exponential graph.	☐	☐	☐

Tables of values and plotting

Completing tables, including negatives and fractions, and drawing curves.

	Don't know	Shaky	Got it
I can complete a table of values, including negative x.	☐	☐	☐
I can complete a table for a reciprocal function.	☐	☐	☐
I can draw a curve through plotted points.	☐	☐	☐

Intercepts and turning points

Reading roots, intercepts and turning points from equations.

	Don't know	Shaky	Got it
I can find where a curve crosses the x-axis from its factorised form.	☐	☐	☐
I can read a turning point from completed-square form.	☐	☐	☐

Quick checks

One quick question per statement. Answer in the box, then check the answers at the end.

1. Which equation has a graph made of two separate curves?

A $y = x^2$ **B** $y = 2/x$ **C** $y = x^3$ **D** $y = 2^x$

Answer: _____ ☐ I got it right

2. The graph of $y = 5 - x^2$ is...

A a n-shaped curve with its maximum at (0, 5) **B** a U-shaped curve with its minimum at (0, 5) **C** a straight line **D** a n-shaped curve with its maximum at (5, 0)

Answer: _____ ☐ I got it right

3. Where does $y = 3^x$ cross the y-axis?

A (0, 1) **B** (0, 3) **C** (0, 0) **D** It never crosses

Answer: _____ ☐ I got it right

4. $y = x^2 - 3x + 1$. Find y when $x = -2$.

Answer: _____ ☐ I got it right

5. $y = 12/x + x$. Find y when $x = 4$.

Answer: _____

☐ I got it right

6. After plotting the points of a quadratic, you join them with...

A a smooth curve through every point **B** straight lines from point to point **C** a ruled line of best fit **D** a curve that skips the lowest point

Answer: _____

☐ I got it right

7. Where does $y = (x - 2)(x + 5)$ cross the x -axis?

Answer: _____

☐ I got it right

8. $y = (x - 3)^2 + 4$. What is the minimum value of y ?

Answer: _____

☐ I got it right

Answers

Try every question first, then check.

1. B: $y = 2/x$
2. A: a n-shaped curve with its maximum at (0, 5)
3. A: (0, 1)
4. 11
5. 7
6. A: a smooth curve through every point
7. -5, 2
8. 4