# Multiple choice questions - Graphs: linear and quadratic

Year: Year 9 · 10

**Question 1** What is the gradient of y = 5x - 2?

- ◯ **A.** -2
- ◯ **B.** 5
- ◯ **C.** 2
- ◯ **D.** -5

**Question 2** Where does y = 3x + 4 cross the y-axis?

- ◯ **A.** (4, 0)
- ◯ **B.** (0, 3)
- ◯ **C.** (0, 4)
- ◯ **D.** (3, 4)

**Question 3** Which point lies on y = 2x - 1?

- ◯ **A.** (3, 5)
- ◯ **B.** (2, 5)
- ◯ **C.** (1, 3)
- ◯ **D.** (0, 1)

**Question 4** The shape of a quadratic graph is:

- ◯ **A.** a straight line
- ◯ **B.** a parabola
- ◯ **C.** a hyperbola
- ◯ **D.** a circle

**Question 5** What is y when x = -3 in $y = x^2$?

- ◯ **A.** -9
- ◯ **B.** 9
- ◯ **C.** 6
- ◯ **D.** -6

**Question 6** The roots of $y = x^2 - 9$ are:

- ◯ **A.** x = 3 only
- ◯ **B.** x = -9 and 9
- ◯ **C.** x = -3 and 3

- ◯ **D.** $x = 0$

**Question 7** The lines $y = x + 3$ and $y = 9 - x$ cross at:

- ◯ **A.** (3, 6)
- ◯ **B.** (6, 3)
- ◯ **C.** (0, 3)
- ◯ **D.** (3, 3)

**Question 8** A line parallel to $y = 4x - 1$ is:

- ◯ **A.** $y = -4x - 1$
- ◯ **B.** $y = 4x + 7$
- ◯ **C.** $y = x - 4$
- ◯ **D.** $y = 1/4\ x$

**Question 9** The turning point of $y = x^2 + 4$ is:

- ◯ **A.** (0, 4)
- ◯ **B.** (4, 0)
- ◯ **C.** (0, -4)
- ◯ **D.** (-4, 0)

**Question 10** A quadratic graph has roots at $x = 1$ and $x = 5$. Its line of symmetry is:

- ◯ **A.** $x = 2$
- ◯ **B.** $x = 3$
- ◯ **C.** $x = 4$
- ◯ **D.** $x = 6$

# Answer grid - Graphs: linear and quadratic

Year: Year 9

| Question | Answer | Explanation |
|---|---|---|
| 1 | **B** | m = 5. |
| 2 | **C** | When x = 0, y = 4. |
| 3 | **A** | 2×3 - 1 = 5. |
| 4 | **B** | A U-shaped (or inverted U) curve. |
| 5 | **B** | $(-3)^2 = 9$. |
| 6 | **C** | $x^2 = 9$. |
| 7 | **A** | x + 3 = 9 - x gives x = 3, y = 6. |
| 8 | **B** | Same gradient 4. |
| 9 | **A** | The minimum is at x = 0, y = 4. |
| 10 | **B** | Halfway between 1 and 5. |