Multiple choice questions - Quadratic equations and graphs

Year: Year 10 · 10

Question 1 The solutions of $x^2 - 9 = 0$ are

- ◯ **A.** $x = 3$ only
- ◯ **B.** $x = \pm 3$
- ◯ **C.** $x = \pm 9$
- ◯ **D.** $x = \pm \frac{9}{2}$

Question 2 The solutions of $x^2 + x - 6 = 0$ are

- ◯ **A.** $2, -3$
- ◯ **B.** $-2, 3$
- ◯ **C.** $1, -6$
- ◯ **D.** $6, -1$

Question 3 The roots of $y = (x - 1)(x + 4)$ are

- ◯ **A.** $1, 4$
- ◯ **B.** $-1, -4$
- ◯ **C.** $1, -4$
- ◯ **D.** $-1, 4$

Question 4 The y-intercept of $y = x^2 - 5x + 6$ is

- ◯ **A.** -5
- ◯ **B.** 6
- ◯ **C.** 1
- ◯ **D.** 0

Question 5 The solutions of $x^2 - 7x = 0$ are

- ◯ **A.** 7 only
- ◯ **B.** $0, 7$
- ◯ **C.** $0, -7$
- ◯ **D.** ± 7

Question 6 The graph of $y = -x^2$ is

- ◯ **A.** $\cup$-shaped
- ◯ **B.** $\cap$-shaped
- ◯ **C.** a straight line

- ◯ **D.** a hyperbola

Question 7 The line of symmetry of $y = x^2 - 6x + 5$ is

- ◯ **A.** $x = 1$
- ◯ **B.** $x = 5$
- ◯ **C.** $x = 3$
- ◯ **D.** $x = -3$

Question 8 (Higher) The turning point of $y = (x + 2)^2 - 5$ is

- ◯ **A.** $(2, -5)$
- ◯ **B.** $(-2, -5)$
- ◯ **C.** $(-2, 5)$
- ◯ **D.** $(2, 5)$

Question 9 (Higher) The discriminant of $x^2 + 2x + 5$ is

- ◯ **A.** 24
- ◯ **B.** -16
- ◯ **C.** 16
- ◯ **D.** -24

Question 10 (Higher) $x^2 - 6x + 9 = 0$ has

- ◯ **A.** two different solutions
- ◯ **B.** one repeated solution $x = 3$
- ◯ **C.** no real solutions
- ◯ **D.** one solution $x = -3$

Answer grid - Quadratic equations and graphs

Year: Year 10

Question	Answer	Explanation
1	**B**	$x^2 = 9$.
2	**A**	$(x + 3)(x - 2) = 0$.
3	**C**	Set each bracket to 0.
4	**B**	Put $x = 0$.
5	**B**	$x(x - 7) = 0$.
6	**B**	Negative coefficient of x^2.
7	**C**	Midpoint of roots 1 and 5.
8	**B**	$(-p, q)$.
9	**B**	$4 - 20$.
10	**B**	$(x - 3)^2 = 0$.