MATHS

BOOKS - INDEPENDENTLY PUBLISHED MATHS (ENGLISH)

QUADRATIC FUNCTIONS

Example

---

1. Analyze the graph of $y = -x^2 + 4x + 5$.

▶ **Watch Video Solution**

2. Analyze the graph of $y = 3x^2 + 2x + 5$

▶ **Watch Video Solution**

3. Solve $x^2 - x - 12 = 0$.

▶ **Watch Video Solution**

4. Solve $(x - 6)^2 = 0$.

▶ **Watch Video Solution**

5. Solve $2x^2 - 8x + 6 = 0$ by completing the square.

▶ **Watch Video Solution**

6. Use the Quadratic formula to solve $3x^2 - 4x + 1 = 0$.

▶ **Watch Video Solution**

7. What is the product of the roots of $3x^2 = 6x + 4$? Transform so that one side of the equation is zero: $3x^2 - 6x - 4 = 0$.

▶ **Watch Video Solution**

Exercises

1. The coordinates of the vertex of the parabola whose equation is $y = 2x^2 + 4x - 5$ are

A. $(2, 11)$

B. $(-1, -7)$

C. $(1, 1)$

D. $(-2, -5)$

Answer: B

▶ **Watch Video Solution**

2. The range of the function $f(x) = 5 - 4x - x^2$ is

A. $\{y : y \leq 0\}$

B. $\{y : y \geq -9\}$

C. $\{y : y \leq 9\}$

D. $\{y : y \geq 0\}$

Answer: C

3. The equation of the axis of symmetry of the function $y = 2x^2 + 3x - 6$ is

A. $x = -\dfrac{3}{2}$

B. $x = -\dfrac{3}{4}$

C. $x = -\dfrac{1}{3}$

D. $x = \dfrac{1}{3}$

Answer: B

▶ **Watch Video Solution**

4. Find the zeros of $y = 2x^2 + x - 6$.

A. 3 and 2

B. -3 and 2

C. $\dfrac{1}{2}$ and $\dfrac{3}{2}$

D. $\dfrac{3}{2}$ and -2

Answer: D

▶ Watch Video Solution

5. The sum of the zeros of $y = 3x^2 - 6x - 4$ is

A. -2

B. $-\dfrac{4}{3}$

C. $\dfrac{4}{3}$

D. 2

Answer: D

▶ **Watch Video Solution**

6. $x^2 + 2x + 3 = 0$ has

A. two real rational roots

B. two real irrational roots

C. two equal real roots

D. two complex conjugate roots

Answer: D

▶ **Watch Video Solution**

7. A parabola with a vertical axis has its vertex at the origin and passes through point (7,7). The parabola intersects line y=6 at two points. The length of the segment joining these points is

A. 14

B. 13

C. 12

D. 8.6

Answer: B

▶ **Watch Video Solution**