

1. Name a, b, c in $x^2 + 5x + 6 = 0$.

Match $ax^2 + bx + c$

Answer: a=1, b=5, c=6

2. Solve $x^2 + 5x + 6 = 0$ with the formula.

disc = $25 - 24 = 1$

$(-5 \pm 1)/2$

Answer: x = -2 or -3

3. Solve $x^2 - 3x - 10 = 0$.

disc = $9 + 40 = 49$

$(3 \pm 7)/2$

Answer: x = 5 or -2

4. Solve $x^2 + 2x - 8 = 0$.

disc = $4 + 32 = 36$

$(-2 \pm 6)/2$

Answer: x = 2 or -4

5. Solve $x^2 - 6x + 3 = 0$ (simplest radical form). (Trainer echo - Aug 2025 Q34!)

disc = $36 - 12 = 24$

$(6 \pm 2\sqrt{6})/2$

Answer: x = $3 \pm \sqrt{6}$

6. Solve $2x^2 - 4x - 3 = 0$ (simplest radical form). (Trainer echo - Jan 2026 Q32!)

disc = $16 + 24 = 40$

$(4 \pm 2\sqrt{10})/4$

Answer: x = $(2 \pm \sqrt{10})/2$

7. Solve $6x^2 + 2x - 1 = 0$ (simplest radical form). (Trainer echo - June 2025 Q32!)

disc = $4 + 24 = 28$

$(-2 \pm 2\sqrt{7})/12$

Answer: x = $(-1 \pm \sqrt{7})/6$

8. Solve $3x^2 - 5x + 1 = 0$.

disc = $25 - 12 = 13$

$(5 \pm \sqrt{13})/6$

Answer: x = $(5 \pm \sqrt{13})/6$

9. Solve $x^2 + x + 5 = 0$. What does the discriminant tell you? ★ challenge

disc = $1 - 20 = -19 < 0$

Answer: no real solutions

10. For $x^2 + 6x + k = 0$ to have exactly ONE solution, find k (discriminant = 0). ★ challenge

$$36 - 4k = 0$$

Answer: $k = 9$