

1. Solve $(x - 3)(x + 5) = 0$.

Each factor = 0

Answer: $x = 3$ or -5

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

$x = 0$ or $x - 4 = 0$

Answer: $x = 0$ or 4

3. Find the zeros of $y = x^2 - 7x + 12$.

Factor: $(x-3)(x-4)$

Answer: $x = 3$ and 4

4. Find the zeros of $y = x^2 + 2x - 15$.

$(x + 5)(x - 3)$

Answer: $x = -5$ and 3

5. Solve $x^2 - 9 = 0$.

$(x+3)(x-3)$

Answer: $x = 3$ or -3

6. Zeros of $f(x) = x^2 - 8x - 20$. (Trainer echo - Aug 2025 Q4!)

$(x - 10)(x + 2)$

Answer: $x = 10$ and -2

7. Zeros of $f(x) = x(x^2 - 36)$. (Trainer echo - Jan 2026 Q16!)

$x = 0$; $x^2 - 36 = 0$ gives ± 6

Answer: $x = 0, 6, -6$

8. Solve $3x^2 = 24x$. (Trainer echo - Aug 2025 Q10!)

$3x^2 - 24x = 0$; $3x(x - 8) = 0$

Answer: $x = 0$ or 8

9. Solve $2x^2 - x - 78 = 0$ by factoring. ★ challenge

$ac = -156$; split $-x$ as $-13x + 12x$

$x(2x + 13) - 6(2x + 13) = 0$

$(2x + 13)(x - 6) = 0$

Answer: $x = 6$ or $x = -13/2$

10. A parabola has zeros -3 and 5 . Write a possible equation in factored form, then in standard form. ★ challenge

$y = (x + 3)(x - 5)$

Expand

Answer: $y = x^2 - 2x - 15$