

1. $y = 2x + 6$. Find the y-intercept.

Set $x = 0$: $y = 6$

Answer: (0, 6)

2. $y = 2x + 6$. Find the x-intercept.

Set $y = 0$: $2x + 6 = 0$

$2x = -6$

Answer: (-3, 0)

3. $f(x) = x - 5$. Find the zero of the function.

Set $f(x) = 0$: $x - 5 = 0$

Answer: $x = 5$

4. Table: $x = 0, 1, 2, 3$ with $y = 8, 6, 4, 2$. Increasing or decreasing?

y values fall as x grows

Answer: Decreasing

5. Table: $x = 0, 1, 2, 3$ with $y = 1, 3, 9, 27$. Increasing or decreasing?

y values grow

Answer: Increasing

6. $f(x) = 3x - 12$. Find the zero.

$3x - 12 = 0$; $3x = 12$

Answer: $x = 4$

7. $y = -4x + 8$. State both intercepts.

$x = 0$ gives $y = 8$

$y = 0$ gives $x = 2$

Answer: (0, 8) and (2, 0)

8. $f(0) = 7$ for some function. What graphical feature is this?

$x = 0$ is the y -axis

Answer: y-intercept at (0, 7)

9. $f(x) = x^2 - 9$. Find ALL zeros. ★ challenge

$x^2 - 9 = 0$

$x^2 = 9$ - two answers!

Answer: $x = 3$ and $x = -3$

10. A parabola has zeros at $x = 1$ and $x = 5$. At what x is its turning point? ★ challenge

The vertex sits midway between zeros

$(1 + 5) / 2$

Answer: $x = 3$