

1. Slope 2, y-intercept 5. Write the equation.

Direct: $y = mx + b$

Answer: $y = 2x + 5$

2. Slope -3, y-intercept 0.

$b = 0$

Answer: $y = -3x$

3. Slope 4 through (1, 9). Find b, write the equation.

$9 = 4(1) + b$, $b = 5$

Answer: $y = 4x + 5$

4. Slope $1/2$ through (4, 7).

$7 = (1/2)(4) + b = 2 + b$

$b = 5$

Answer: $y = (1/2)x + 5$

5. Through (0, 3) and (2, 11).

$m = 8/2 = 4$; $b = 3$ (given!)

Answer: $y = 4x + 3$

6. Slope -2 through (3, 1).

$1 = -2(3) + b$, $b = 7$

Answer: $y = -2x + 7$

7. Through (1, 4) and (3, 10).

$m = 6/2 = 3$

$4 = 3(1) + b$, $b = 1$

Answer: $y = 3x + 1$

8. Through (-2, 6) with slope -1.

$6 = -1(-2) + b = 2 + b$

$b = 4$

Answer: $y = -x + 4$

9. Through (2, -1) and (-4, 11). ★ challenge

$m = (11 - (-1)) / (-4 - 2) = 12 / (-6) = -2$

$-1 = -2(2) + b$, $b = 3$

Answer: $y = -2x + 3$

10. A line is parallel to $y = 3x - 5$ and passes through (2, 4). Write its equation. ★ challenge

Parallel = same slope: $m = 3$

$4 = 3(2) + b$, $b = -2$

Answer: $y = 3x - 2$