

Chapter 7 — Writing Linear Equations

Worksheet A: Guided Practice

Name: _____ Grade: _____ Date: _____

1. Write the equation of a line with slope 5 and y-intercept -3.

Use $y = mx + b$.

2. Write the equation of a line with slope -2 and y-intercept 5.

$m = -2, b = 5$.

3. Write the equation of a line with slope 3 through (2, 8).

Substitute into $y = mx + b$: $8 = 3(2) + b$.

4. Write the equation of a line through (0, 4) with slope 2.

Since $x = 0$, the y-value given is already the y-intercept.

5. Write the equation of the line through (1, 2) and (3, 8).

Find the slope first.

6. Are these lines parallel? $y = 2x + 1$ and $y = 2x - 4$.

Compare the slopes.

7. Find the slope perpendicular to $m = 3$.

Use the negative reciprocal.

8. Write the equation of a line with slope -1 and y-intercept 3.

$-x$ means $-1x$.

9. Write the equation of a horizontal line through (0, -2).

Horizontal lines have equation $y = b$.

10. Write the equation of a vertical line through (4, 1).

Vertical lines have equation $x = a$.

11. A table shows: when x is 0, 1, 2, y is 5, 7, 9. Write the equation.

Find the starting value, then the change each time.

12. Write the equation of a line with slope $1/3$ through (6, 4).

Substitute: $4 = 1/3(6) + b$.

13. Write the equation of a line with slope -4 through $(-1, 3)$.

Substitute carefully: $3 = -4(-1) + b$.

14. A service charges \$10 to start and \$6 per hour. Write an equation for cost C after h hours.

The starting value is the y-intercept.

15. Is $(3, 10)$ on the line $y = 2x + 4$?

Substitute $x = 3$ and check.
