5.2 Use Linear Equations in Slope-Intercept Form

Key Vocabulary

- y-intercept, p. 225
- **slope,** p. 235
- slope-intercept form, p. 244

Writing an Equation of a Line in Slope-Intercept Form STEP 1 Identify the slope m. You can use the slope formula to calculate the slope if you know two points on the line. STEP 2 Find the y-intercept. You can substitute the slope and the coordinates of a point (x, y) on the line in y = mx + b. Then solve for b. STEP 3 Write an equation using y = mx + b.

Your Turn!

You Try: Skill #6

Write an equation of the line that passes through the point (6, 3) and has a slope of 2.

Don't forget to show your work and write down your answer!

Skill #6: Write an equation of the line given a slope and a point on the line.

EXAMPLE 1 Write an equation given the slope and a point

Write an equation of the line that passes through the point (-1, 3) and has a slope of -4.

Skill #7: Write an equation of the line given two points on a line.

EXAMPLE 2 Write an equation given two points

Write an equation of the line that passes through (-2, 5) and (2, -1).

Your Turn!

You Try: Skill #7

Write an equation of the line that passes through (1, -2) and (-5, 4)

Don't forget to show your work and write down your answer!

Your Turn!

You Try: Skill #8

Write an equation for the linear function with the values f(-2) = 10 and f(4) = -2.

> Don't forget to show your work and write down your answer!

Skill #8: Write an equation of the line given two points on a line in function notation.

EXAMPLE 3 Standardized Test Practice

Which function has the values f(4) = 9 and f(-4) = -7?

(A)
$$f(x) = 2x + 10$$

B
$$f(x) = 2x + 1$$

©
$$f(x) = 2x - 13$$

D
$$f(x) = 2x - 14$$

Skill #9: Model a real - world situation given a constant rate of change and a data point.

Skill #10: Model a real - world situation given two data points.

We will come back to work with word problems!

Please Don't Forget to Enter Your Answers for the "You Try" examples in the form below!