

Algebra II  
Functions #5

Name \_\_\_\_\_

- Calculate the slope of the line passing through each given pair of points.
  - (5, 9) and (12, 14)
  - (12, 3) and (8, 7)
  - (-4, 3) and (8, 7)
  - (-2, -5) and (7, -3)
  - (-5, 6) and (3, 6)
  - (-3, 7) and (-3, 11)
- Write the point-slope form of the line with the given slope, passing through the given point.
  - $m = -5$  through (3, 2)
  - $m = 4$  through (2, -5)
  - $m = -9$  through (-2, 8)
  - $m = 12$  through (-3, -6)
- Find the equation of the line, in point-slope form, passing through the given points.
  - (2, 5) and (4, -2)
  - (1, 6) and (-3, 5)
  - (-4, 3) and (6, -2)
  - (1, 4) and (5, 9)
  - (3, -4) and (2, -4)
  - (4, -7) and (4, 4)
- Verify that each of the given point-slope forms are equivalent by writing both in the form  $y = mx + b$ , which is known as slope-intercept form.
  - $y + 1 = 2(x + 3)$  and  $y - 3 = 2(x + 1)$
  - $y - 3 = -\frac{1}{3}(x + 4)$  and  $y - 1 = \frac{1}{3}(x - 2)$
- Find the x-intercept of each line. Hint: x-intercepts are ordered pairs
  - $y = -3x + 10$
  - $y - 4 = 2(x + 3)$
  - $y + 5 = -\frac{3}{4}(x - 2)$
  - $y - 3 = \frac{2}{5}(x + 6)$
- Find the y-intercept of each line. Tip: y-intercepts are ordered pairs.
  - $y = -6x + 5$
  - $y + 3 = \frac{3}{2}(x - 2)$
  - $y + 4 = 6(x + 2)$
  - $y + 8 = \frac{5}{3}(x - 3)$