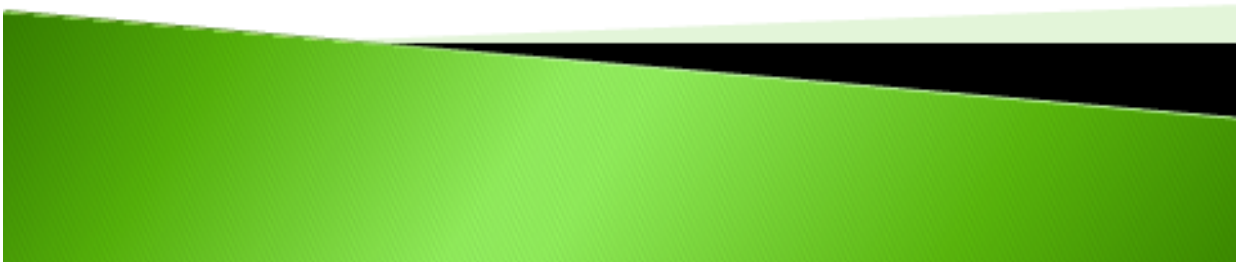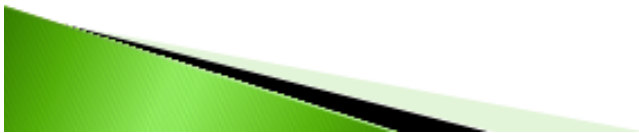# 4.6 Model Direct Variation

Direct Variation

▸ y = ax where a≠0
  ◦ a is the constant of variation

  ◦ y varies directly with x

  ◦ Slope is a and y–intercept is 0 so
    the line passes through the
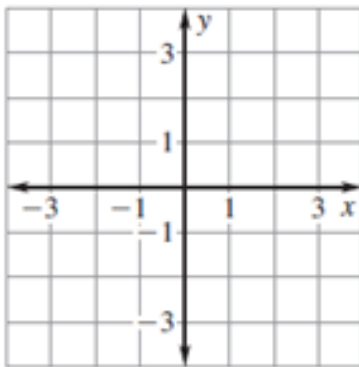   origin

I. Given Equation– Direct Variation?

Tell whether the equation represents direct variation. If so, identify the constant of variation.
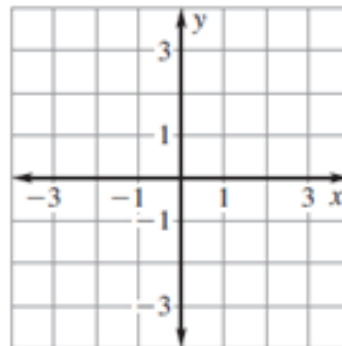
1) $3x - 2y = 0$

2) $x + 3y = 6$

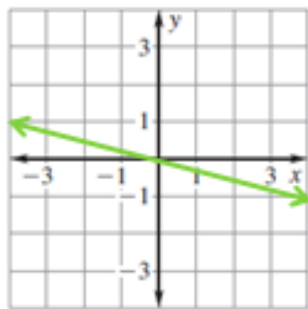## II. Graph the direct variation equation

3) $y = -1/3\ x$

4) $-12y = -24x$

III. Write & use the direct variation equation

▸ 5) Write the equation then find the value of y when x = 12

IV. Working with tables

6) Given the table, state if it represents direct variation. If so, write the direct variation equation.

X	−4	−2	2	4
Y	−10	−5	5	10

V. Given y varies directly with x. . .

▸ Use the values to write a direct variation equation

    7) x=3, y=9   8) x=-18, y=-4

VI. Word Problem....

SALTWATER AQUARIUM The number s of tablespoons of sea salt needed in a saltwater fish tank varies directly with the number w of gallons of water in the tank. A pet shop owner recommends adding 100 tablespoons of sea salt to a 20 gallon tank.

- Write a direct variation equation that relates w and s.

- How many tablespoons of salt should be added to a 30 gallon saltwater fish tank?

Homework

Pages: 256-258
#4-26 even, 30, 36, 40, 44