Grade 8
Unit 3 Vocabulary

Slope and Y-Intercept

(8.4A, 8.4B, 8.4C, and 8.5E)

Rate — a multiplicative comparison of two different quantities where the measuring unit is different for each quantity.

Comparison of two different units.

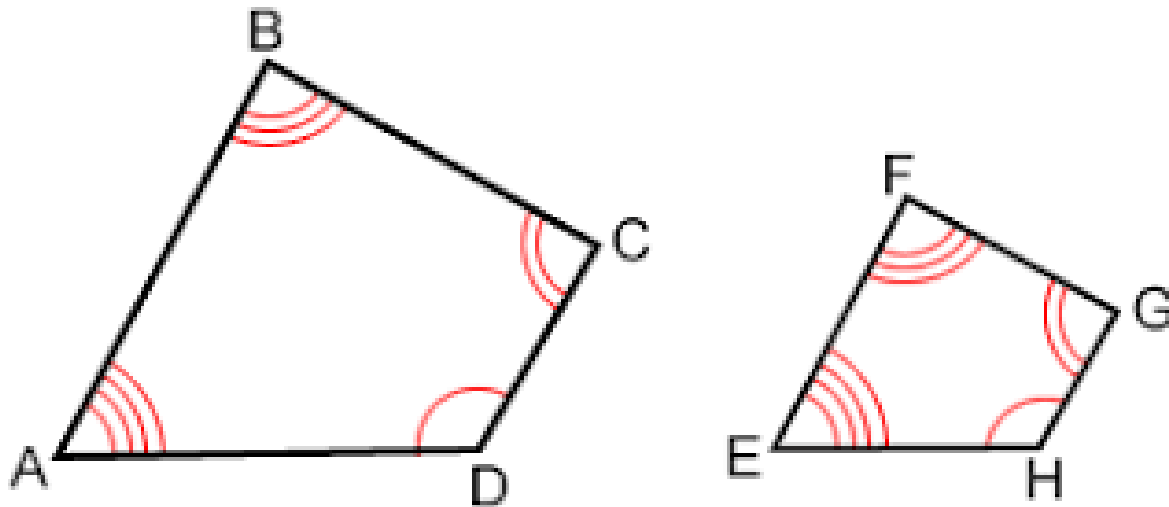$$\frac{2 \text{ Orders}}{3 \text{ Sessions}}$$

Unit rate — a ratio between two different units where one of the terms is equal to one.

Rate with a denominator of 1.

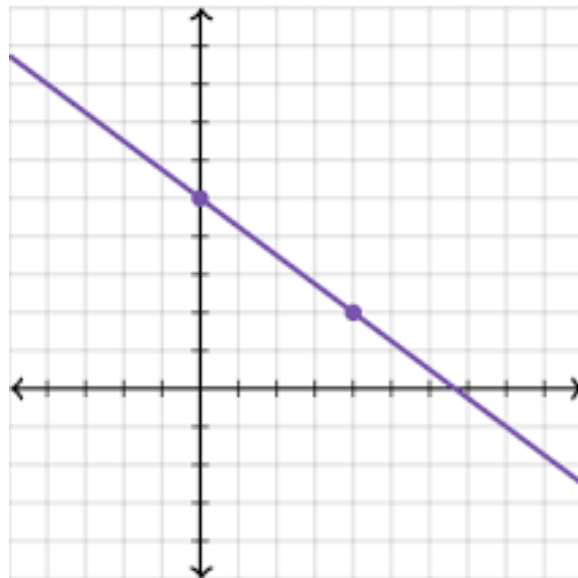$$\frac{16 \text{ miles}}{1 \text{ hour}}$$

Similar Figures – shapes whose angles are congruent and side lengths are proportional (equal scale factor).

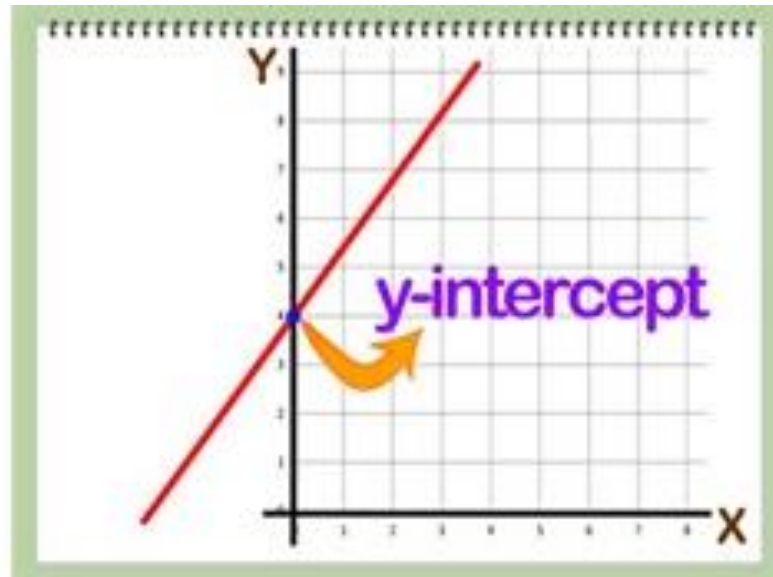Same shapes that are different sizes.

Slope – rate of change in y (vertical) compared to change in x (horizontal), $y = mx + b$. Constant rate of change.

How steep a straight line is.

y-intercept – *y*-coordinate of a point at which the relationship crosses the *y*-axis meaning the *x*-coordinate is equal to zero, denoted as *b* in $y = mx + b$.
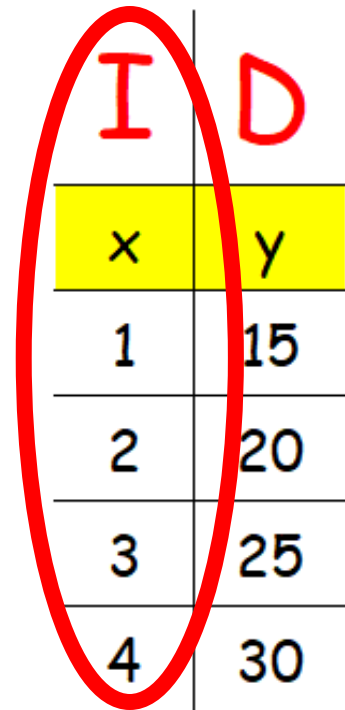
Where a line crosses the y-axis

$(0, ?)$

Dependent variable – A variable that depends on one or more other variables. (y)

The y variable.

I	D
x	y
1	15
2	20
3	25
4	30

Independent variable – A variable in an equation that may have its value freely chosen without considering values of any other variable. (x)
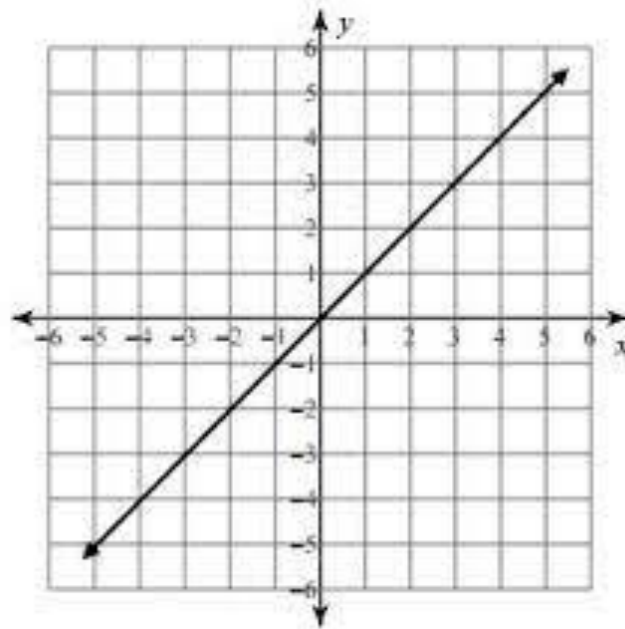
The x variable.

| I	D
x	y
1	15
2	20
3	25
4	30

Proportional – Two variables are proportional if their ratio is constant. The points will make a straight line that contains (0,0) and passes through the origin.

Straight line through the origin (0,0)

Non-Proportional – Two variables are non-proportional if their ratio is not constant. The points do not contain (0,0) and do not pass through the origin.

Line **NOT** through the origin (0,0)
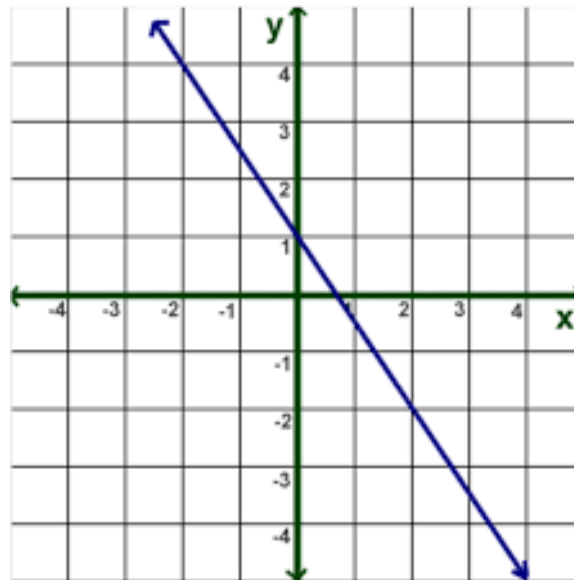
Direct variation — When two variables are related in such a way that the ratio of their values always remains the same.

A proportional relationship.

DIRECT VARIATION

$$y = kx$$

constant of variation

y and x vary directly

direct variation