

Vocabulary Unit 2

Module 3: Proportional Relationships

(3.1) **proportional relationship:** a relationship between two quantities in which the ratio of one quantity to the other is constant. The graph passes through the origin.

Example: \$12/hour

(3.1) **constant of proportionality:** the value of k in the equation $y = kx$, or $k = \frac{y}{x}$.

Example: $y = 12x$, 12 = constant of proportionality

(3.2) **rate of change:** the ratio of the amount of change in the dependent variable, y , to the amount of change in the independent variable, x .

Example: $\frac{\text{change in dependent } (y)}{\text{change in independent } (x)}$

(3.2) **slope:** the ratio of the change in y values to the change in x values.

Example: $\frac{y_2 - y_1}{x_2 - x_1}$

(3.3) **unit rate:** a rate in which the second quantity in the comparison is 1.

Example: \$12/hour

Module 4: Nonproportional Relationships

(4.1) **linear equation:** an equation whose solutions are ordered pairs that form a line when graphed on a coordinate plane.

Example: $y = mx + b$

(4.2) **y – intercept:** the y - coordinate of the point where the graph intersects the y - axis.

Example: In the equation $y = 2x + 9$, the y - intercept is 9 and will intersect the y -axis at the point $(0, 9)$

(4.2) **slope – intercept form of an equation:** $y = mx + b$, where m is the slope and b is the y - intercept.

Example: $y = 2x + 9$, $2 = \text{slope}$, $9 = y$ - intercept

Module 5: Writing Linear Equations

(5.3) **bivariate data:** is a set of data that is made up of two paired variables.

Example: (x, y)

(5.3) **nonlinear relationship:** the rate of change varies between points (not constant)

Example: rates of change: 5, 15, 20

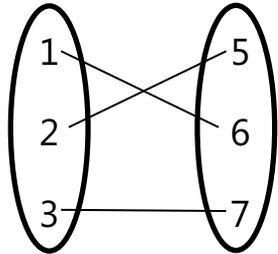
Module 6: Functions

(6.1) **function:** assigns exactly one output to each input.

(6.1) **input:** x

(6.1) **output:** y

Example:



(6.2) **linear function:** when a linear equation is graphed and is a nonvertical line.

Example: $y = 2x$, there is only one value of y for each value of x