

# Algebra 1 End-of-Course and Geometry End-of-Course Assessments Reference Sheet

## Slope formula

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

where  $m$  = slope and  $(x_1, y_1)$  and  $(x_2, y_2)$  are points on the line

## Distance between two points

$P_1(x_1, y_1)$  and  $P_2(x_2, y_2)$

$$\sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

## Slope-intercept form of a linear equation

$$y = mx + b$$

where  $m$  = slope and  $b$  =  $y$ -intercept

## Midpoint between two points

$P_1(x_1, y_1)$  and  $P_2(x_2, y_2)$

$$\left( \frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right)$$

## Point-slope form of a linear equation

$$y - y_1 = m(x - x_1)$$

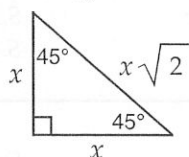
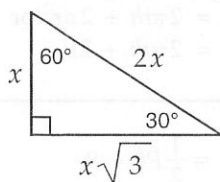
where  $m$  = slope and  $(x_1, y_1)$  is a point on the line

## Quadratic formula

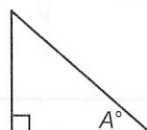
$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

where  $a$ ,  $b$ , and  $c$  are coefficients in an equation of the form  $ax^2 + bx + c = 0$

## Special Right Triangles



## Trigonometric Ratios



$$\sin A^\circ = \frac{\text{opposite}}{\text{hypotenuse}}$$

$$\cos A^\circ = \frac{\text{adjacent}}{\text{hypotenuse}}$$

$$\tan A^\circ = \frac{\text{opposite}}{\text{adjacent}}$$

## Conversions

1 yard = 3 feet

1 mile = 1,760 yards = 5,280 feet

1 acre = 43,560 square feet

1 hour = 60 minutes

1 minute = 60 seconds

1 cup = 8 fluid ounces

1 pint = 2 cups

1 quart = 2 pints

1 gallon = 4 quarts

1 pound = 16 ounces

1 ton = 2,000 pounds

1 meter = 100 centimeters = 1000 millimeters

1 kilometer = 1000 meters

1 liter = 1000 milliliters = 1000 cubic centimeters

1 gram = 1000 milligrams

1 kilogram = 1000 grams