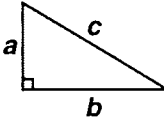
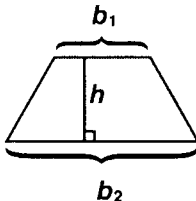

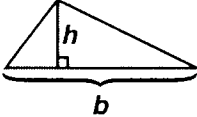
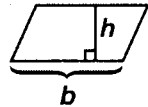

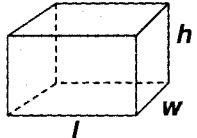
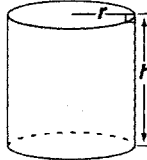
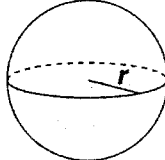
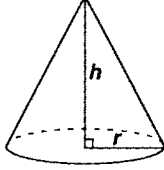


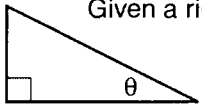
HIGH SCHOOL PROFICIENCY ASSESSMENT MATHEMATICS REFERENCE SHEET

<p>Pythagorean Formula</p> $c^2 = a^2 + b^2$		<p>Trapezoid</p> $\text{Area} = \frac{1}{2}h(b_1 + b_2)$		<p>60 seconds = 1 minute 60 minutes = 1 hour 24 hours = 1 day 7 days = 1 week 52 weeks = 1 year</p>
<p>Rectangle</p> $\text{Area} = lw$ $\text{Perimeter} = 2(l + w)$		<p>Triangle</p> $\text{Area} = \frac{1}{2}bh$		<p>12 inches = 1 foot 3 feet = 1 yard 36 inches = 1 yard 5,280 feet = 1 mile 1,760 yards = 1 mile</p>
<p>Parallelogram</p> $\text{Area} = bh$		<p>Circle</p> $\text{Area} = \pi r^2$ $\text{Circumference} = 2\pi r$		<p>100 centimeters = 1 meter 1000 meters = 1 kilometer</p>
<p>Rectangular Prism</p> $\text{Volume} = lwh$ $\text{Surface Area} = 2lw + 2wh + 2lh$		<p>Cylinder</p> $\text{Volume} = \pi r^2 h$ $\text{Surface Area} = 2\pi rh + 2\pi r^2$		<p>8 fluid ounces = 1 cup 2 cups = 1 pint 2 pints = 1 quart 4 quarts = 1 gallon 1000 milliliters (mL) = 1 liter (L)</p>
<p>Sphere</p> $\text{Volume} = \frac{4}{3}\pi r^3$ $\text{Surface Area} = 4\pi r^2$		<p>Cone</p> $\text{Volume} = \frac{1}{3}\pi r^2 h$		<p>16 ounces = 1 pound 1000 milligrams = 1 gram 100 centigrams = 1 gram 10 grams = 1 dekagram 1000 grams = 1 kilogram</p>

The sum of the measures of the interior angles of a triangle = 180°
The measure of a circle is 360° or 2π radians

$$\pi \approx 3.14 \text{ or } \frac{22}{7}$$

Given a right triangle:



$$\sin \theta = \frac{\text{opposite side}}{\text{hypotenuse}} \quad \cos \theta = \frac{\text{adjacent side}}{\text{hypotenuse}} \quad \tan \theta = \frac{\text{opposite side}}{\text{adjacent side}}$$

Given the points (x_1, y_1) , (x_2, y_2) ,

Distance between two points:

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

Interest = principal \times rate \times time

Simple Interest Formula: $A = p + prt$ **Compound Interest Formula:** $A = p \left(1 + \frac{r}{n}\right)^{nt}$

A = amount after t years; p = principal; r = annual interest rate; t = number of years;

n = number of times compounded per year

Slope Formula:

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

Slope-intercept form of a line:

$$y = mx + b$$

The number of **combinations** of n elements taken r at a time is given by $\frac{n!}{(n-r)!r!}$

The number of **permutations** of n elements taken r at a time is given by $\frac{n!}{(n-r)!}$

Distance = rate \times time

