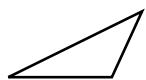


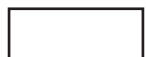
Grades 9–10 FCAT Mathematics Reference Sheet

Area



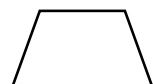
Triangle

$$A = \frac{1}{2}bh$$



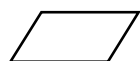
Rectangle

$$A = lw$$



Trapezoid

$$A = \frac{1}{2}h(b_1 + b_2)$$



Parallelogram

$$A = bh$$



Circle

$$A = \pi r^2$$

KEY

b = base	d = diameter
h = height	r = radius
l = length	A = area
w = width	C = circumference
ℓ = slant height	V = volume
S.A. = surface area	

Use 3.14 or $\frac{22}{7}$ for π .

Circumference

$$C = \pi d \quad \text{or} \quad C = 2\pi r$$

Volume/Capacity



Right Circular Cone

$$V = \frac{1}{3}\pi r^2 h$$



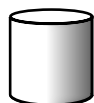
Right Square Pyramid

$$V = \frac{1}{3}lwh$$



Sphere

$$V = \frac{4}{3}\pi r^3$$



Right Circular Cylinder

$$V = \pi r^2 h$$



Rectangular Prism

$$V = lwh$$

Total Surface Area

$$S.A. = \frac{1}{2}(2\pi r)\ell + \pi r^2 \quad \text{or} \quad S.A. = \pi r \ell + \pi r^2$$

$$S.A. = 4\left(\frac{1}{2}l\ell\right) + l^2 \quad \text{or} \quad S.A. = 2l\ell + l^2$$

$$S.A. = 4\pi r^2$$

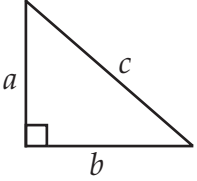
$$S.A. = 2\pi r h + 2\pi r^2$$

$$S.A. = 2(lw) + 2(hw) + 2(lh)$$

In the following formulas, n represents the number of sides.

- In a polygon, the sum of the measures of the interior angles is equal to $180(n-2)$.
- In a regular polygon, the measure of an interior angle is equal to $\frac{180(n-2)}{n}$.

Grades 9–10 FCAT Mathematics Reference Sheet

<p>Pythagorean theorem:</p>  $a^2 + b^2 = c^2$	<p>Distance between two points $P_1(x_1, y_1)$ and $P_2(x_2, y_2)$:</p> $\sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$
<p>Slope-intercept form of an equation of a line:</p> $y = mx + b$ <p>where m = slope and b = the y-intercept.</p>	<p>Midpoint between two points $P_1(x_1, y_1)$ and $P_2(x_2, y_2)$:</p> $\left(\frac{x_2 + x_1}{2}, \frac{y_2 + y_1}{2} \right)$
<p>Distance, rate, time formula:</p> $d = rt$ <p>where d = distance, r = rate, t = time.</p>	<p>Simple interest formula:</p> $I = prt$ <p>where p = principal, r = rate, t = time.</p>

Fold and Tear Carefully Along Dotted Line.

Conversions

1 yard = 3 feet = 36 inches
1 mile = 1760 yards = 5280 feet
1 acre = 43,560 square feet
1 hour = 60 minutes
1 minute = 60 seconds

1 liter = 1000 milliliters = 1000 cubic centimeters
1 meter = 100 centimeters = 1000 millimeters
1 kilometer = 1000 meters
1 gram = 1000 milligrams
1 kilogram = 1000 grams

1 cup = 8 fluid ounces
1 pint = 2 cups
1 quart = 2 pints
1 gallon = 4 quarts

1 pound = 16 ounces
1 ton = 2000 pounds

Metric numbers with four digits are presented without a comma (e.g., 9960 kilometers). For metric numbers greater than four digits, a space is used instead of a comma (e.g., 12 500 liters).