Grades 6–8 FCAT Mathematics Reference Sheet

Area

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

Rectangle $A = bh$

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

Parallelogram $A = bh$
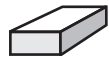
KEY	
b = base	d = diameter
h = height	r = radius
w = width	A = area
ℓ = slant height	B = area of base
$S.A.$ = surface area	C = circumference
	V = volume
$L.A.$ = lateral area	P = perimeter of base

Use 3.14 or $\frac{22}{7}$ for π.

Circle $A = \pi r^2$

Circumference

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

Volume/Capacity

Total Surface Area

Rectangular Prism $\quad V = bwh$ or Bh

$S.A. = L.A. + 2B$ or $2bh + 2bw + 2hw$

Right Circular Cylinder $\quad V = \pi r^2 h$

$S.A. = 2\pi rh + 2B$ or $2\pi rh + 2\pi r^2$

Right Square Pyramid $\quad V = \frac{1}{3}Bh$

$S.A. = B + \frac{1}{2}P\ell$

Right Circular Cone $\quad V = \frac{1}{3}\pi r^2 h$
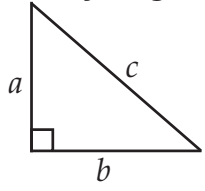
In a polygon, the sum of the measures of the interior angles is equal to **180(n − 2)**, where n represents the number of sides.

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Pythagorean theorem:

$$a^2 + b^2 = c^2$$

Simple interest formula:

$$I = prt$$

where p = principal, r = rate, t = time.

Slope-intercept form of an equation of a line:

$$y = mx + b$$

where m = slope and b = y-intercept.

Distance, rate, time formula:

$$d = rt$$

where d = distance, r = rate, t = time.

Conversions within a System of Measure

1 yard = 3 feet
1 mile = 1,760 yards = 5,280 feet
1 acre = 43,560 square feet

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

1 minute = 60 seconds
1 hour = 60 minutes
1 year = 52 weeks = 365 days

Conversions between Systems of Measure

When converting from Customary to Metric, use these approximations.

1 inch = 2.54 centimeters
1 foot = 0.305 meters
1 mile = 1.61 kilometers

1 cup = 0.24 liters
1 gallon = 3.785 liters
1 ounce = 28.35 grams
1 pound = 0.454 kilograms

When converting from Metric to Customary, use these approximations.

1 centimeter = 0.39 inches
1 meter = 3.28 feet
1 kilometer = 0.62 miles

1 liter = 4.23 cups
1 liter = 0.264 gallons
1 gram = 0.0352 ounces
1 kilogram = 2.204 pounds

Temperature Conversions between Celsius and Fahrenheit

$$°C = (°F - 32) ÷ 1.8$$
$$°F = (°C \times 1.8) + 32$$