



Mathematics Reference Sheets

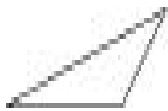
Copyright Statement for this Assessment and Evaluation Services Publication

Authorization for reproduction of this document is hereby granted to persons acting in an official capacity within the State System of Public Education as defined in Section 228.041(1), Florida Statutes. The copyright notice at the bottom of this page must be included in all copies.

The Administrator
Assessment and Evaluation Services
Florida Department of Education
Turlington Building, Room 414
325 West Gaines Street
Tallahassee, Florida 32399-0400

Copyright © 2000
State of Florida
Department of State

Grades 6-8 FCAT Mathematics Reference Sheet



Triangle

Area
 $A = 1/2 bh$



Rectangle

$A = lw$



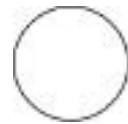
Trapezoid

$A = 1/2 h (b_1 + b_2)$



Parallelogram

$A = bh$



Circle

$A = r^2$

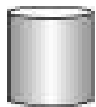
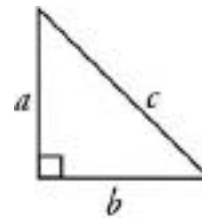
KEY	
b = base	d = diameter
h = height	r = radius
l = length	A = area
w = width	C = circumference
S.A. = Surface area	V = volume
Use 3.14 or 22/7 for	

Circumference

$C = d = 2 r$

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.

Pythagorean theorem: $c^2 = a^2 + b^2$



Right Circular Cylinder

Volume
 $V = r^2h$

Total Surface Area

$S.A. = 2 rh + 2 r^2$



Rectangular Solid

$V = lwh$

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

Conversions

1 yard = 3 feet = 36 inches
 1 mile = 1,760 yards = 5,280 feet
 1 acre = 43,560 square feet
 1 hour = 60 minutes
 1 minute = 60 seconds

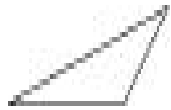
1 cup = 8 fluid ounces
 1 pint = 2 cups
 1 quart = 2 pints
 1 gallon = 4 quarts

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

1 pound = 16 ounces
 1 ton = 2,000 pounds

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

Grades 9-10 FCAT Mathematics Reference Sheet



Triangle

Area
 $A = 1/2 bh$



Rectangle

$A = lw$



Trapezoid

$A = 1/2 h (b_1 + b_2)$



Parallelogram

$A = bh$



Circle

$A = r^2$

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 22/7 for	

Circumference

$C = d = 2 r$



Right Circular Cone

Volume

$V = 1/3 r^2 h$

Total Surface Area

$S.A. = 1/2 (2 r)\ell + r^2 = r\ell + r^2$



Square Pyramid

$V = 1/3 lwh$

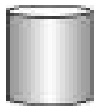
$S.A. = 4 (1/2 l\ell) + l^2 = 2l\ell + l^2$



Sphere

$V = 4/3 r^3$

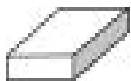
$S.A. = 4 r^2$



Right Circular Cylinder

$V = r^2 h$

$S.A. = 2 rh + 2 r^2$



Rectangular Solid

$V = lwh$

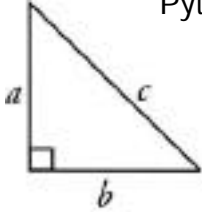
$S.A. = 2(lw) + 2(hw) + 2(lh)$

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 $[180(n - 2)] / n$.

Grades 9-10 FCAT Mathematics Reference Sheet

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

Conversions

1 yard = 3 feet = 36 inches
 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 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 pound = 16 ounces
 1 ton = 2,000 pounds

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

FCAT MATH REFERENCE SHEET

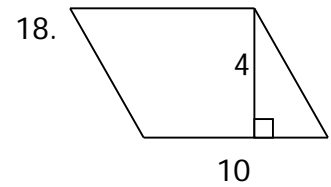
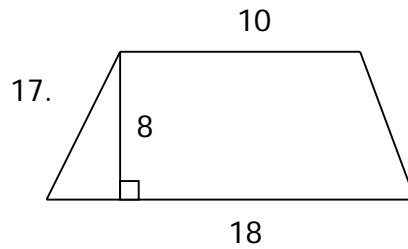
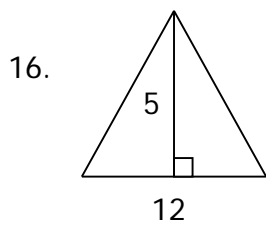
Name _____

DIRECTIONS: Refer to your FCAT Mathematics Reference Sheet to answer each of the following.

1. Make a drawing of a trapezoid.
2. Write the formula for the volume of a sphere. _____ What is the volume of a sphere with a radius of 3 inches? _____
3. Write the formula for the total surface area _____ and the volume _____ of a right circular cylinder. Use the correct formula to find how many ounces of broth could be held in a cylinder that has a radius of 2 inches and a height of 7 inches if every cubic inch of volume contains one-fourth ounce of broth. Round your answer to the nearest whole number.)
4. Find the circumference of a circle with a radius of 14 cm. Use the fractional value for pi (π) that is given on your reference sheet.
5. What is the sum of the interior angles of a regular pentagon? (5 sides)
6. If the equation of a given line is $y = \frac{1}{4}x + 2$, what is the slope of the line, and what is its y-intercept? Slope _____ y-intercept _____
7. Write out the Pythagorean Theorem . _____ The hypotenuse is represented by the letter _____ and the two legs are represented by the letters _____ and _____. Find the length of the hypotenuse of an isosceles right triangle with legs of 5 units. Round your answer to the nearest hundredth or give the exact square root answer. _____
8. Write the formula for the distance between two points. _____ Use this formula to find the distance between the points (-1, -1) and (3, 3). _____
9. Write the formula for simple interest. _____ Find the simple interest on a loan of \$300 for 8 months at 6% annual interest.

10. Write the distance, rate, time formula. _____ Using this formula, how long does it take you to drive 780 miles at 65 mph? _____
11. Write the formula for the midpoint between two points. _____
Find the coordinates of the midpoint between the points (8, -3) and (-2, 11). _____
12. How many inches are in a yard? _____ How many in $\frac{1}{4}$ yard? _____
13. There are _____ feet in a mile. What part of a mile is 1320 feet? _____
14. How many cups are in one gallon? _____
15. How many ounces are in one quart? _____

Find the area of each figure.



Find the volume of each figure.

