



Mathematics Reference Sheets

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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

$A = \pi r^2$

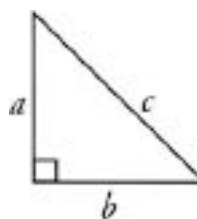
KEY	
b = base	d = diameter
h = height	r = radius
l = length	A = area
w = width	C = circumference
S.A. = Surface area	V = volume
Use 3.14 or 22/7 for π	

Circumference

$C = \pi d = 2\pi r$

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
 $V = \pi r^2 h$

Total Surface Area

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



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

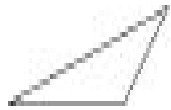
1 cup = 8 fluid ounces
 1 pint = 2 cups
 1 quart = 2 pints
 1 gallon = 4 quarts

1 liter = 1000 milliliters = 1000 cubic centimeters
 1 meter = 100 centimeters = 1000 millimeters
 1 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).

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

$A = \pi r^2$

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 22/7 for π	

Circumference

$C = \pi d = 2\pi r$



Right Circular Cone

Volume

$V = 1/3 \pi r^2 h$

Total Surface Area

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



Square Pyramid

$V = 1/3 lwh$

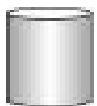
$S.A. = 4 (1/2 l\ell) + l^2 = 2l\ell + l^2$



Sphere

$V = 4/3 \pi r^3$

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



Right Circular Cylinder

$V = \pi r^2 h$

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



Rectangular Solid

$V = lwh$

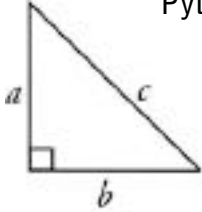
$S.A. = 2(lw) + 2(hw) + 2(lh)$

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

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 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

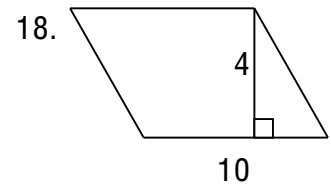
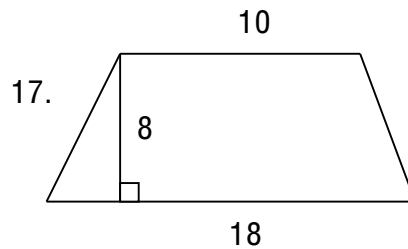
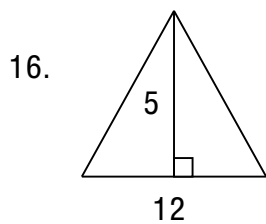
Name _____

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.

