Same Side

# GEOMETRY REVIEW AND FORMULAS

Special Angles		
Name	Characteristic	Examples
Right Angle	Measure is 90°.	
Straight Angle	Measure is 180°.	180°
Complementary Angles	The sum of the measures of two complementary angles is 90°.	Angles 1 and 2 are complementary.
Supplementary Angles	The sum of the measures of two supplementary angles is 180°.	Angles 3 and 4 are supplementary.
Vertical Angles	Vertical angles have equal measures.	Angle 2 = Angle 4 Angle 1 = Angle 3
Angles Formed by Parallel Lines and a Transversal		m and n are parallel. $ \begin{array}{c}                                     $
Alternate Interior Angles Alternate Exterior Angles Interior Angles on the	Measures are equal.  Measures are equal.  Angles are supplementary.	Angle 3 = Angle 6 Angle 1 = Angle 8 Angles 3 and 5 are supplementary.

Special	<b>Triangles</b>
---------	------------------

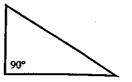
Diaht	Trionalo	

Characteristic

Examples

Name

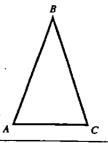
Triangle has a right angle.



Isosceles Triangle

Triangle has two equal sides.

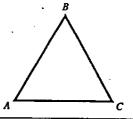
$$AB = BC$$



**Equilateral Triangle** 

Triangle has three equal sides.

$$AB = BC = CA$$

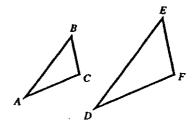


Similar Triangles

Corresponding angles are equal; corresponding sides are proportional.

$$A = D$$
,  $B = E$ ,  $C = F$ 

$$\frac{AB}{DE} = \frac{AC}{DF} = \frac{BC}{EF}$$



## **Formulas**

Figure
--------

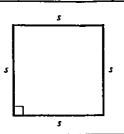
#### Formulas

### Examples

#### Square

Perimeter: 
$$P = 4s$$

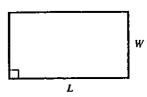
Area: 
$$A = s^2$$



Rectangle

Perimeter: 
$$P = 2L + 2W$$

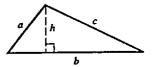
Area: 
$$A = LW$$



Triangle

Perimeter: 
$$P = a + b + c$$

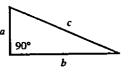
Area: 
$$A = \frac{1}{2}bh$$



Pythagorean Formula (for right triangles)

In a right triangle with legs 
$$a$$
 and  $b$  and hypotenuse  $c$ ,

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



Sum of the Angles of a Triangle

$$A+B+C=180^{\circ}$$



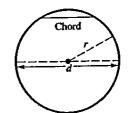
Circle

Diameter: 
$$d = 2r$$

Circumference: 
$$C = 2\pi r$$

$$C = \pi d$$

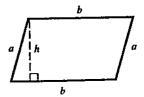
Area: 
$$A = \pi r^2$$



Parallelogram

Area: 
$$A = bh$$

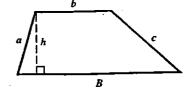
Perimeter: 
$$P = 2a + 2b$$



Trapezoid

Area: 
$$A = \frac{1}{2}(B + b)h$$

Perimeter: 
$$P = a + b + c + B$$



Formulas		
Figure	Formulas	Examples
Sphere	Volume: $V = \frac{4}{3}\pi r^3$ Surface area: $S = 4\pi r^2$ Circumference: $C = 2\pi r$	
Cone	Volume: $V = \frac{1}{3} \pi r^2 h$ Surface area: $S = \pi r \sqrt{r^2 + h^2}$	
Cube	Volume: $V = e^3$ Surface area: $S = 6e^2$	
Rectangular Solid	Volume: $V = LWH$ Surface area: A = 2HW + 2LW + 2LH	H W L
Right Circular Cylinder	Volume: $V = \pi r^2 h$ Surface area: $S = 2\pi r h + 2\pi r^2$	
Right Pyramid	Volume: $V = \frac{1}{3}Bh$ B = area of the base	