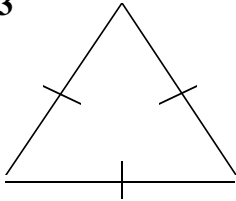


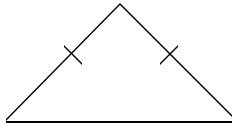
# TRIANGLES

1) In the triangles below, how many of the sides are of equal length?

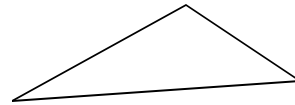
a) 3



b) 2



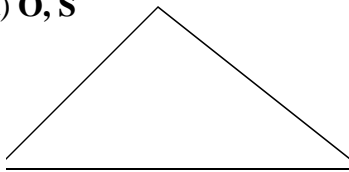
c) 0



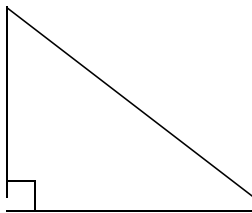
2) For the triangles below, place each in one or more of the categories by writing the lead letter below each triangle:

Equilateral, Isosceles, Scalene, Obtuse, Right or Acute

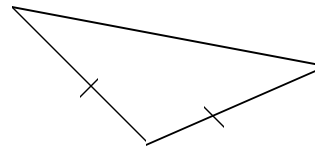
a) O, S



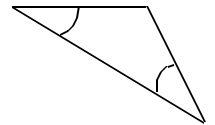
b) R, S



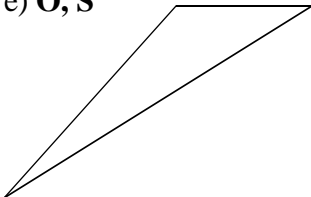
c) I, O



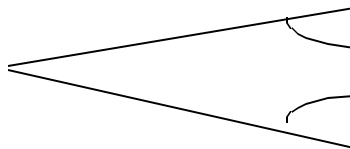
d) I, O



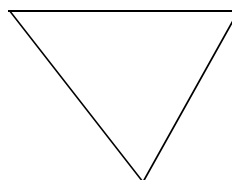
e) O, S



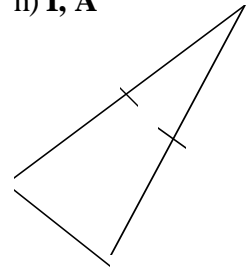
f) I, A



g) S, A

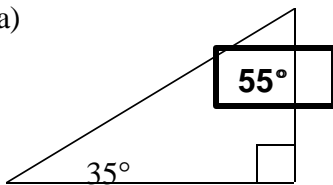


h) I, A

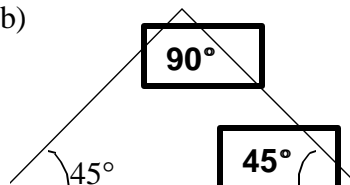


3) Label the angles in degrees of the triangles below:

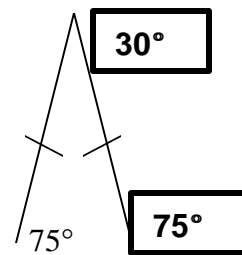
a)



b)



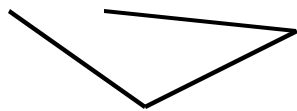
c)



4) Draw the triangles listed below. If triangle is not possible, explain why.

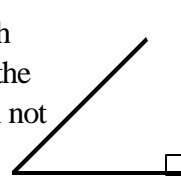
a) Equilateral Obtuse Triangle

If you have equal length sides and an obtuse angle the three line segments can not meet.



b) Equilateral Right Triangle

If you have equal length sides and a right angle the three line segments can not meet.



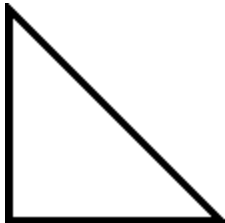
c) Equilateral Acute Triangle



d) Isosceles Obtuse Triangle



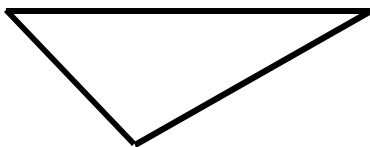
f) Isosceles Right Triangle



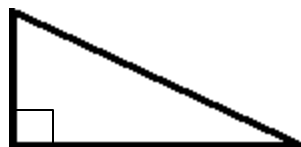
f) Isosceles Acute Triangle



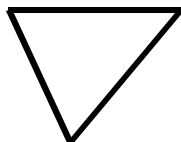
g) Scalene Obtuse Triangle



h) Scalene Right Triangle



i) Scalene Acute Triangle



## RIGHT TRIANGLES & PYTHAGOREAN THEOREM

1) Solve for the missing side:

a)  $A = 2$   
 $B = 2$   
 $C = \underline{2.83}$

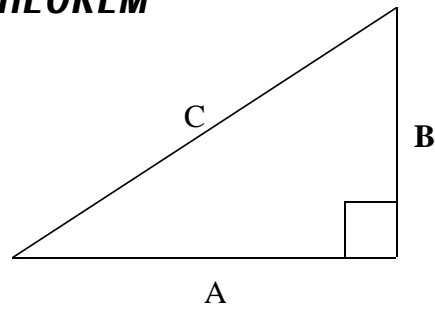
b)  $A = 4$   
 $B = 2$   
 $C = \underline{4.47}$

c)  $A = 4$   
 $B = \underline{3}$   
 $C = 5$

d)  $A = 5$   
 $B = \underline{10.9}$   
 $C = 12$

e)  $A = \underline{24.27}$   
 $B = 6$   
 $C = 25$

f)  $A = \underline{13.23}$   
 $B = 15$   
 $C = 20$

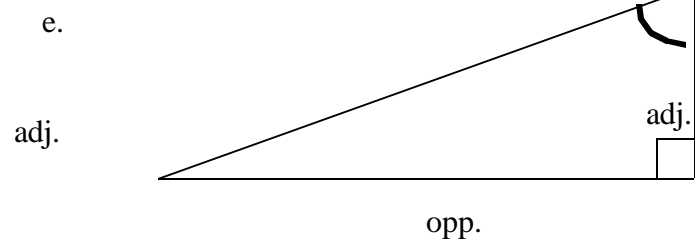
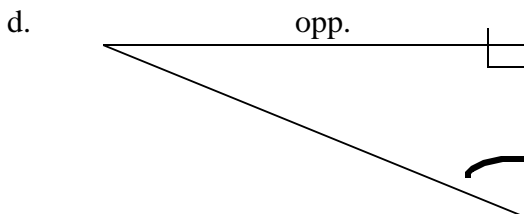
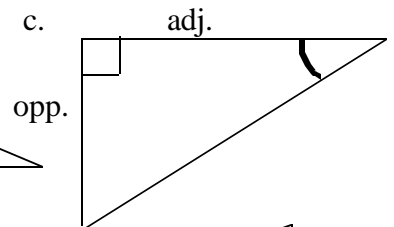
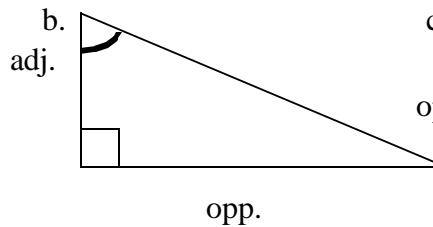
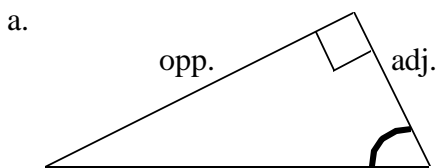


2) Name two different Pythagorean triples (the two sides and the hypotenuse of a right triangle are integers). For example:  $5^2 = 3^2 + 4^2$

$$5^2 + 12^2 = 13^2$$

$$7^2 + 24^2 = 25^2$$

3) Given the following triangles, which sides are adjacent to the given angle and which sides are opposite to the given angle? (Given angles are the marked non-right angles.)



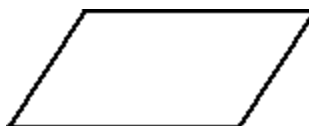
## POLYGONS

1) Name the following polygons:

a) Trapezoid



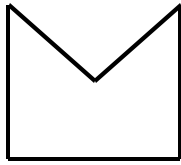
b) parallelogram



c) octagon



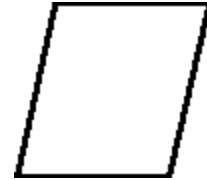
d) **Pentagon**



e) **hexagon**



f) **Rhombus**



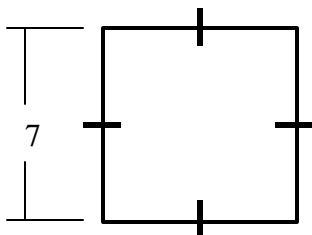
2) Write *always*, *sometimes* or *never* in the blanks below.

- a) A rhombus is ***always*** a parallelogram.
- j) A square is ***always*** a quadrilateral.
- k) A rhombus is ***sometimes*** a square.
- l) Regular polygons ***always*** have equal length sides.
- m) Quadrilaterals with two parallel sides are ***sometimes*** parallelograms.
- n) Polygons with all right angles are ***sometimes*** squares.
- o) A polygon with only three equal length sides is ***never*** a right triangle.
- p) The Sun ***always*** rises in the east.

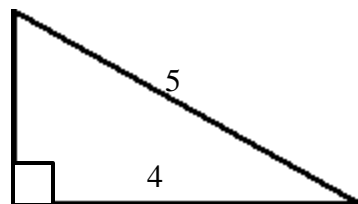
## AREA

1) Calculate the perimeter and area of the following polygons:

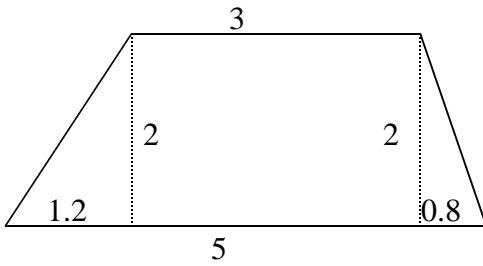
a)  $P = \underline{28}$   $A = \underline{49}$



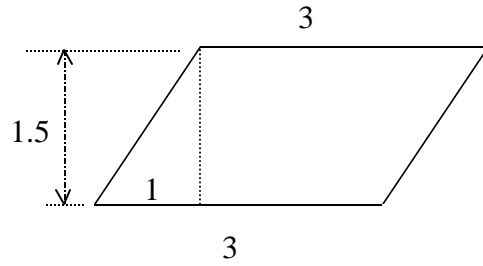
b)  $P = \underline{12}$   $A = \underline{6}$



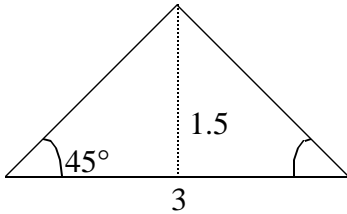
c)  $P = \underline{12.48}$   $A = \underline{8}$



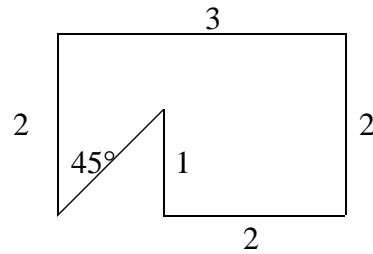
d)  $P = \underline{9.6}$   $A = \underline{4.5}$



e)  $P = \underline{7.24}$   $A = \underline{2.25}$



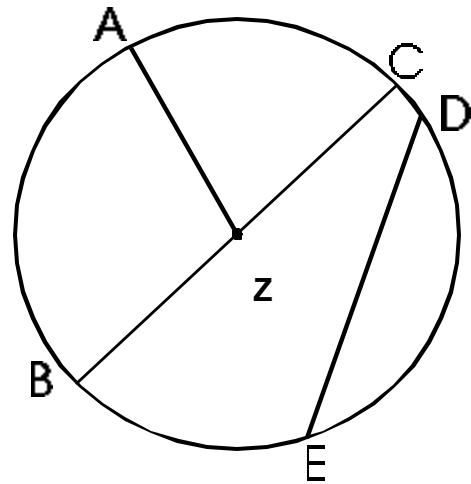
f)  $P = \underline{11.41}$   $A = \underline{5.5}$



## CIRCLES

1) Name the line segments that are:

- a) Chords: **BC and DE**
- b) Radius: **AZ, ZB, and ZC**
- c) Diameter: **BC**



2) What is the radius of a circle whose circumference is  $8\pi$  in length? What is its diameter?

Radius: **4**          Diameter: **8**

3) What is the circumference of a circle whose diameter is 9 units long?

**$9\pi$  units**

4) What is the circumference of a circle whose radius is 9 units long?

**$18\pi$  units**

5) What is the area of a circle whose radius is 7 units in length?

**$49\pi$  units<sup>2</sup>**

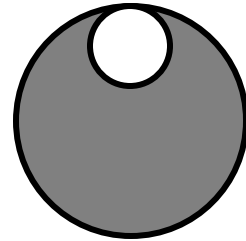
6) What is the area of a circle whose diameter is 7 units in length?

**$12.25\pi$  units<sup>2</sup>**

7) What is the area of the figure to the right?

The large circle has a diameter of 10 units and the small punched out circle has a diameter of 3 units.

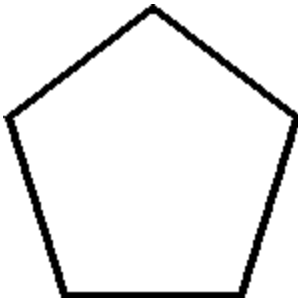
**$25\pi$  units<sup>2</sup> -  $2.25\pi$  units<sup>2</sup> =  $22.75\pi$  units<sup>2</sup>**



## ***SYMMETRY***

1) How many lines of symmetry for the following shapes.

b) A regular pentagon: **5**

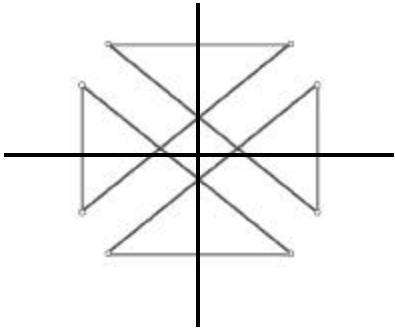


b) A decagon: **5**

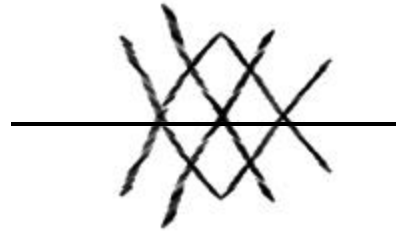


2) Name the axis or axes, x-axis, y-axis, or both axes, of symmetry of the following:

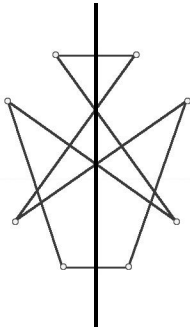
a) **Both: x-axis, y-axis**



b) **x-axis**



c) **y-axis**



d) **Both: x-axis, y-axis**

