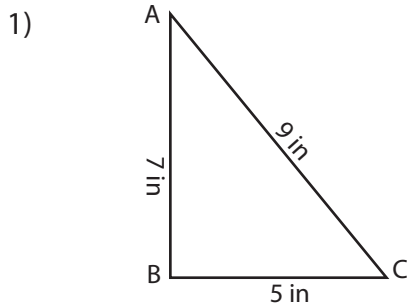


## Angles & Sides - Triangle

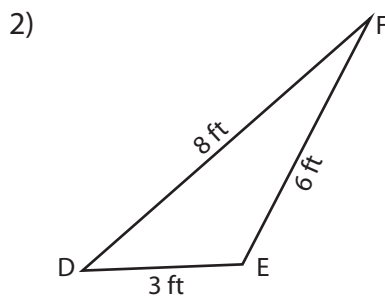
Largest angle is always opposite to the longest side.  
Smallest angle is always opposite to the shortest side.

A) Identifying smallest and largest angle for each triangle.



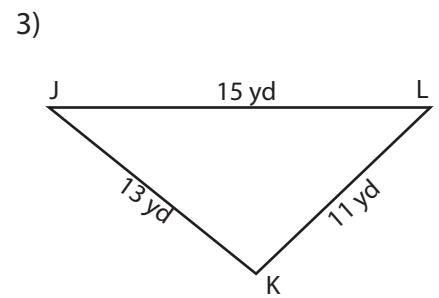
Largest angle = \_\_\_\_\_

Smallest angle = \_\_\_\_\_



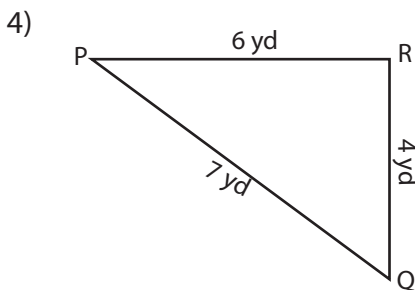
Largest angle = \_\_\_\_\_

Smallest angle = \_\_\_\_\_



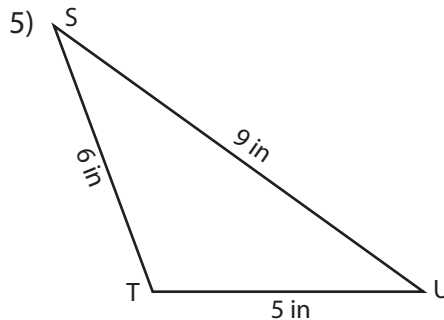
Largest angle = \_\_\_\_\_

Smallest angle = \_\_\_\_\_



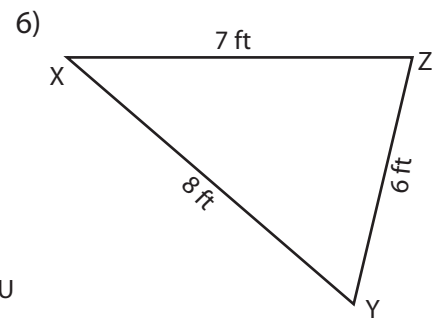
Largest angle = \_\_\_\_\_

Smallest angle = \_\_\_\_\_



Largest angle = \_\_\_\_\_

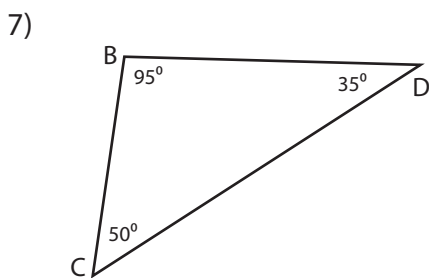
Smallest angle = \_\_\_\_\_



Largest angle = \_\_\_\_\_

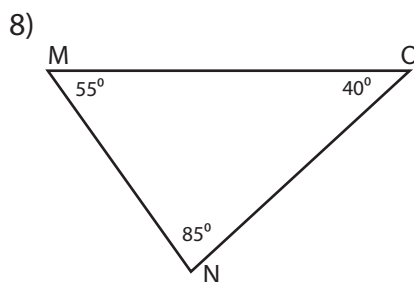
Smallest angle = \_\_\_\_\_

B) Identifying shortest and longest side for each triangle.



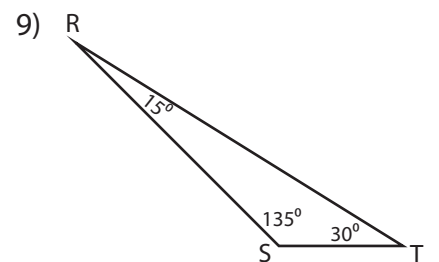
Longest side = \_\_\_\_\_

Shortest side = \_\_\_\_\_



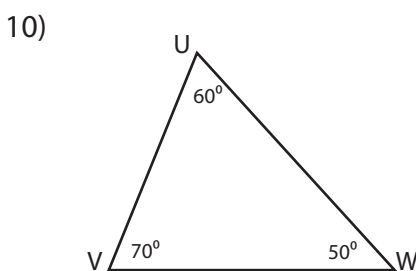
Longest side = \_\_\_\_\_

Shortest side = \_\_\_\_\_



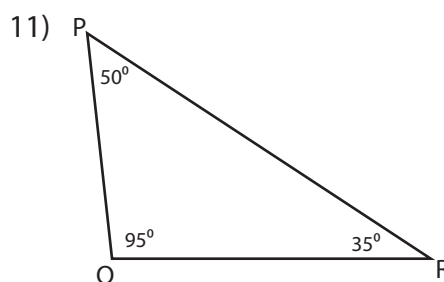
Longest side = \_\_\_\_\_

Shortest side = \_\_\_\_\_



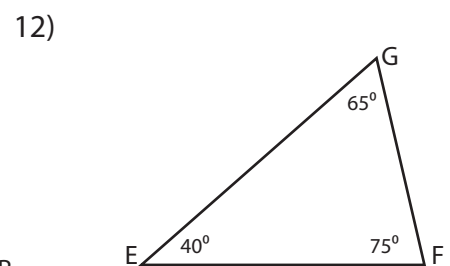
Longest side = \_\_\_\_\_

Shortest side = \_\_\_\_\_



Longest side = \_\_\_\_\_

Shortest side = \_\_\_\_\_

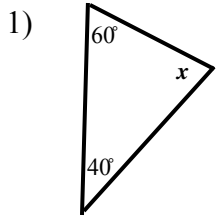


Longest side = \_\_\_\_\_

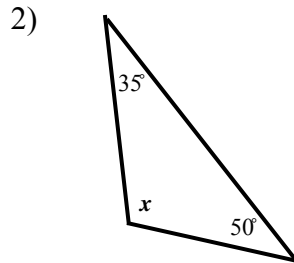
Shortest side = \_\_\_\_\_

## SUM OF THE INTERIOR ANGLES OF A TRIANGLE #1

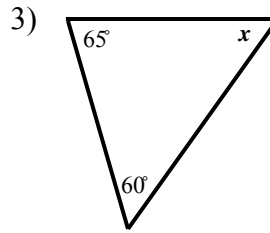
**Directions:** Find the measurement of each missing angle in the triangles below. Remember, the Triangle Sum Theorem states that the interior angles of a triangle always add up to  $180^\circ$ .



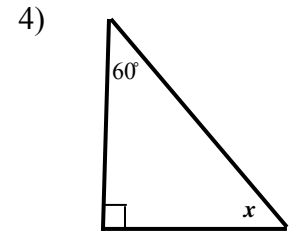
$x =$  \_\_\_\_\_



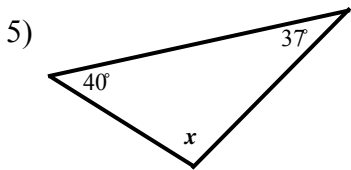
$x =$  \_\_\_\_\_



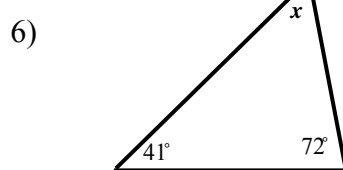
$x =$  \_\_\_\_\_



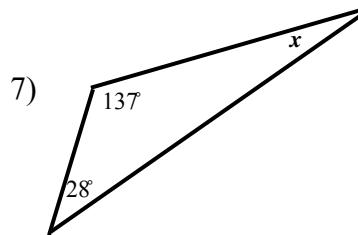
$x =$  \_\_\_\_\_



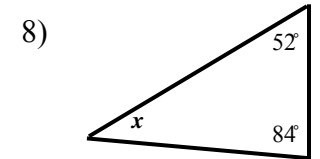
$x =$  \_\_\_\_\_



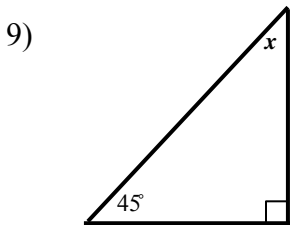
$x =$  \_\_\_\_\_



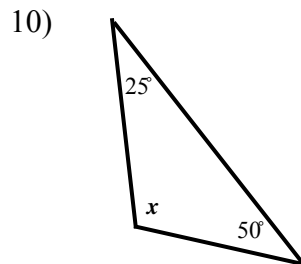
$x =$  \_\_\_\_\_



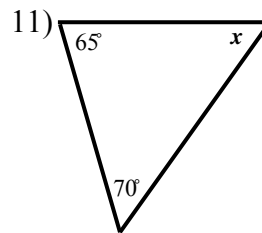
$x =$  \_\_\_\_\_



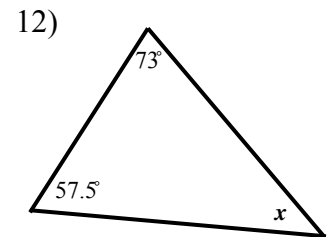
$x =$  \_\_\_\_\_



$x =$  \_\_\_\_\_



$x =$  \_\_\_\_\_



$x =$  \_\_\_\_\_

# Worksheet Triangle Inequalities

Name \_\_\_\_\_

Decide whether each set of numbers is a triangle.

1) 15, 12, 9

2) 23, 16, 7

3) 20, 10, 9

4) 8.5, 6.5, 13.5

5) 47, 28, 70

6) 28, 41, 13

7) 5, 10, 15

8) 9, 40, 41

9) 12, 2.2, 14.3

10) 6, 9, 16

The measures of two sides are given. Between what two numbers must the third side fall.

11) 9 and 15

11) Write an inequality to represent your answer: \_\_\_\_\_

12) 11 and 20

12) Write an inequality to represent your answer: \_\_\_\_\_

13) 23 and 14

13) Write an inequality to represent your answer: \_\_\_\_\_

14) 5 and 8

14) Write an inequality to represent your answer: \_\_\_\_\_

15) 15 and 18

15) Write an inequality to represent your answer: \_\_\_\_\_

16) 22 and 34

16) Write an inequality to represent your answer: \_\_\_\_\_

17) 47 and 71

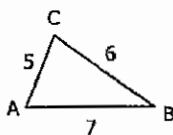
17) Write an inequality to represent your answer: \_\_\_\_\_

18) 21 and 47

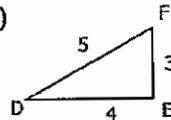
18) Write an inequality to represent your answer: \_\_\_\_\_

Name the largest and the smallest angle.

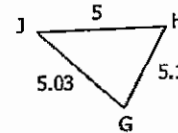
19)



20)



21)



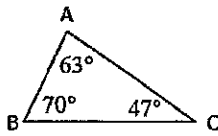
List the angles of  $\triangle ABC$  from the smallest to the largest.

22)  $\overline{AB} = 17$ ,  $\overline{BC} = 21$ ,  $\overline{AC} = 18$

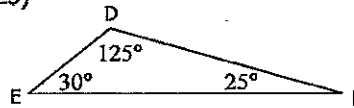
23)  $\overline{AB} = 15$ ,  $\overline{AC} = 16$ ,  $\overline{BC} = 17$

List the sides in order, underline the side with the shortest length.

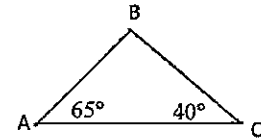
24)



25)



26)



List the sides of  $\triangle ABC$  from the longest to shortest.

27)  $m\angle A = 46^\circ$ ,  $m\angle B = 30^\circ$

28)  $m\angle C = 101^\circ$ ,  $m\angle B = 70^\circ$

29)  $m\angle A = 59^\circ$ ,  $m\angle C = 61^\circ$

Find the value of  $x$  and list the sides of  $\triangle ABC$  in order from shortest to longest if the angles have the indicated measures. (Hint: Find the angle measures first, then decide which sides are the longest)

30)  $m\angle A = (9x + 29)^\circ$ ,  $m\angle B = (93 - 5x)^\circ$ , and  $m\angle C = (10x + 2)^\circ$ .

31)  $m\angle A = (9x - 4)^\circ$ ,  $m\angle B = (4x - 16)^\circ$ , and  $m\angle C = (68 - 2x)^\circ$ .

32)  $m\angle A = (12x - 9)^\circ$ ,  $m\angle B = (62 - 3x)^\circ$ , and  $m\angle C = (16x + 2)^\circ$ .

33)  $m\angle A = (5x + 2)^\circ$ ,  $m\angle B = (6x - 10)^\circ$ , and  $m\angle C = (x + 20)^\circ$ .

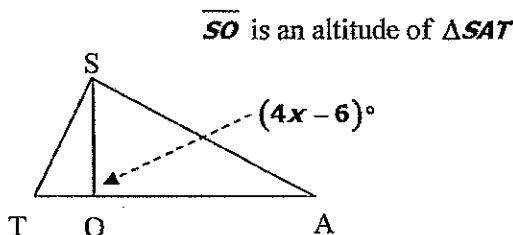
34)  $m\angle A = (10x)^\circ$ ,  $m\angle B = (5x - 17)^\circ$ , and  $m\angle C = (7x - 1)^\circ$ .

Answer the following questions.

35) Draw  $\triangle DEA$  with a median  $\overline{EG}$ .

36) Draw  $\triangle JKH$  with an altitude  $\overline{JP}$ .

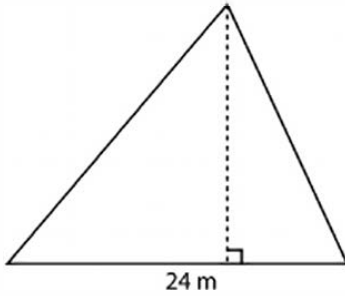
37) Find the value of  $x$ .



## Triangle - Finding Base or Height

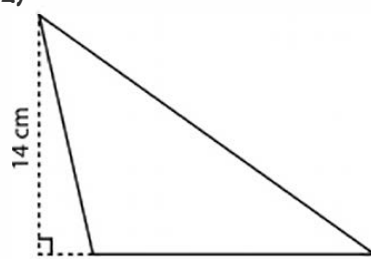
Find the base or height of each triangle.

1)



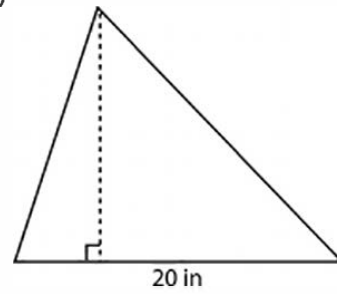
Area =  $252 \text{ m}^2$   
Height =

2)



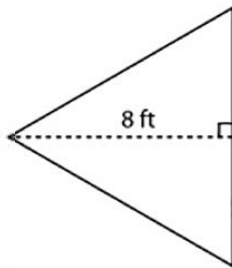
Area =  $133 \text{ cm}^2$   
Base =

3)



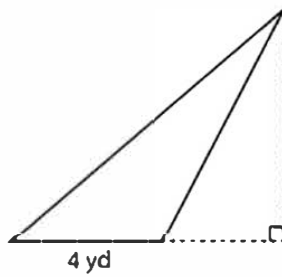
Area =  $170 \text{ in}^2$   
Height =

4)



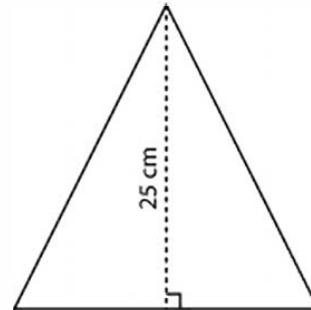
Area =  $40 \text{ ft}^2$   
Base =

5)



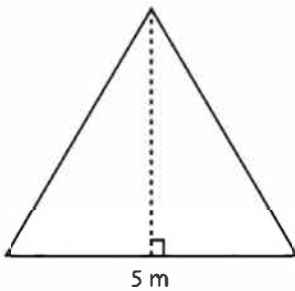
Area =  $26 \text{ yd}^2$   
Height =

6)



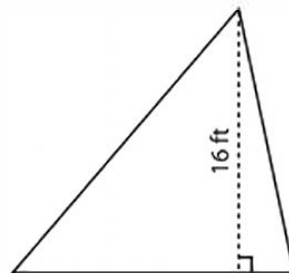
Area =  $250 \text{ cm}^2$   
Base =

7)



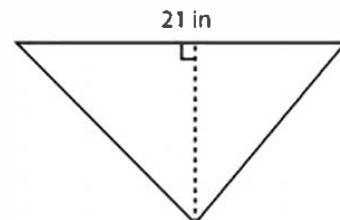
Area =  $20 \text{ m}^2$   
Height =

8)



Area =  $120 \text{ ft}^2$   
Base =

9)

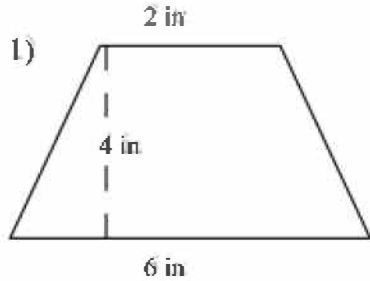


Area =  $126 \text{ in}^2$   
Height =

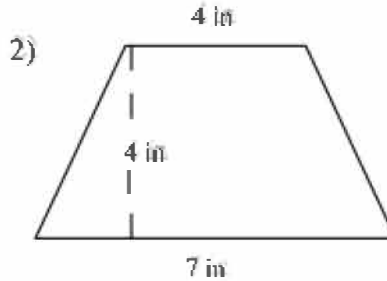
Name \_\_\_\_\_

**AREA OF A TRAPEZOID**

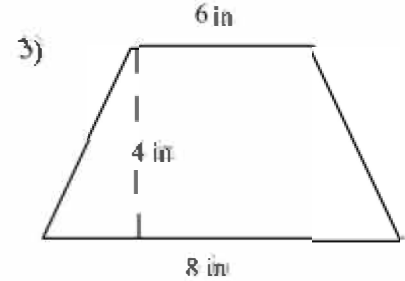
**Directions:** Find the area of each trapezoid. The formula to calculate the area of a trapezoid is  $Area = \frac{1}{2}(base\ 1 + base\ 2) \times height$ . Write your answer in the space provided.



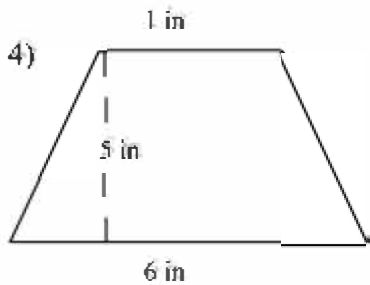
Area \_\_\_\_\_



Area \_\_\_\_\_



Area \_\_\_\_\_



Area \_\_\_\_\_

5) A farmer needs to buy fertilizer for a field shaped like a trapezoid. The trapezoidal field has bases that are 35 and 48 yards and a height of 26 yards. Each bag of fertilizer covers 83 square yards. How many bags of fertilizer will the farmer need to buy to cover his field?

