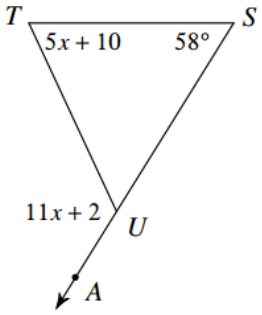
Unit 3 Test Study Guide **Geometry**

Directions: Solve for x. Then find the missing angle.

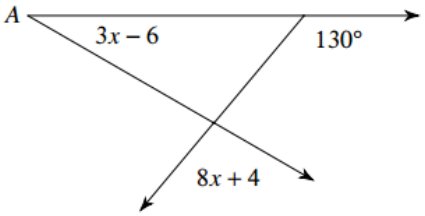
1)



x = _____

m∠TUA = _____

2)



x = _____

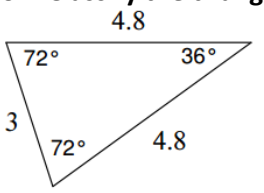
m∠A = _____

Directions: Classify the triangle by its angles.

3) m∠A = (4x + 10)°
m∠B = (–3x + 60)°
m∠C = (x + 74)°

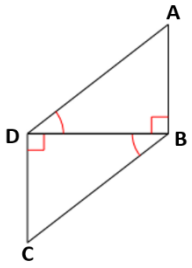
Direction: Classify the triangle by its sides.

4)

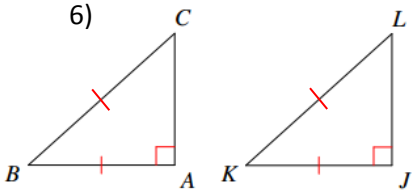


Directions: Determine if the triangles are congruent. If they are, justify your answer & write a triangle congruence statement.

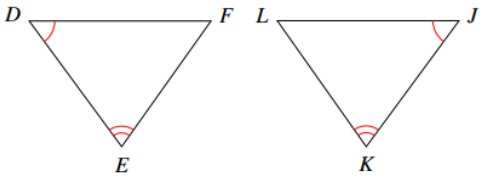
5)



6)

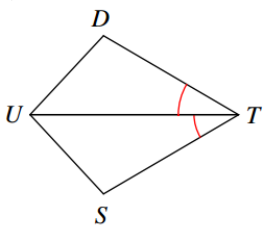


7)

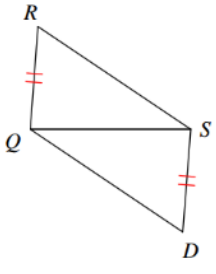


Directions: Determine the missing information needed to prove the triangles are congruent with the given theorem or postulate.

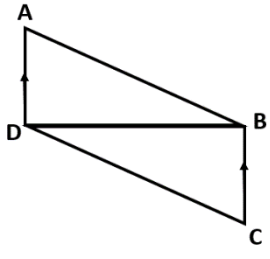
8) ASA



9) SSS

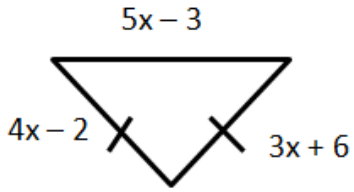


10) AAS



11) Given that $\Delta CDE \cong \Delta HIJ$, CE = 5x, and HJ = 2x + 15, find x and CE.

12) What is the length of the longest side?



13) What is the measure of the vertex angle in an isosceles triangle if a base angle measures 45°?

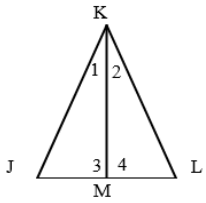
14) In an isosceles triangle, a vertex angle measures 3x and a base angle measures x. What is the measure of each of the angles in the isosceles triangle?

Directions: Determine if the following side lengths can be used to make a triangle. If they are, write the sides in order from least to greatest and then the angles in order from least to greatest.

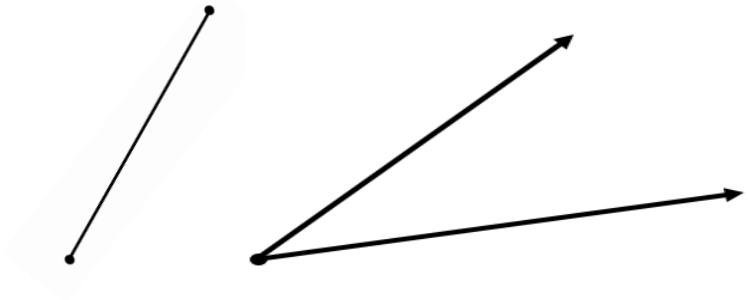
15) AB = 5, BC = 8, AC = 10

16) MN = 3, LN = 2, ML = 5

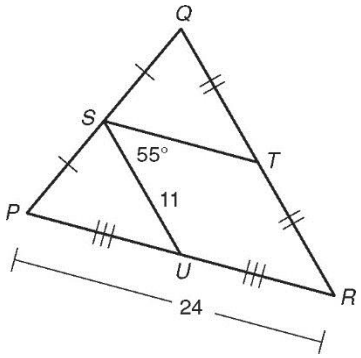
17) Given: $\angle 1 \cong \angle 2$
$\angle 3 \cong \angle 4$
Prove: ΔJKL is isosceles



18) Copy the segment and angle onto another piece of paper. Then, bisect the segment and angle.



Directions: Use the triangle midsegment theorem and the figure below to answer 19 – 22.



19) ST _____

20) QR _____

21) PU _____

22) m∠SUP _____