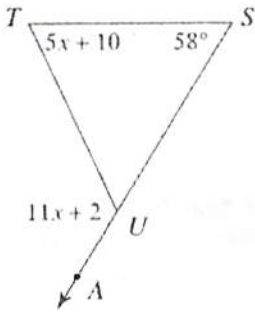


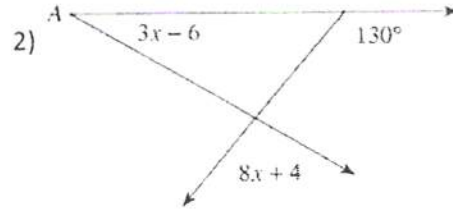
Unit 3 Test Study Guide

Geometry

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



$x = \underline{11}$
 $m\angle TUA = \underline{123}$

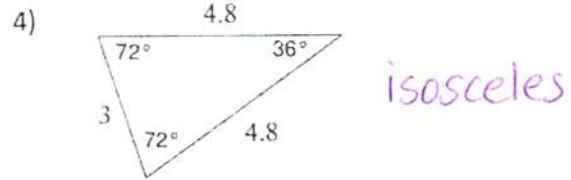


$x = \underline{12}$
 $m\angle A = \underline{30^\circ}$

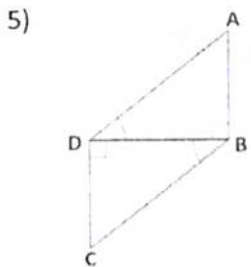
Directions: Classify the triangle by its angles.

3) $m\angle A = (4x + 10)^\circ$
 $m\angle B = (-3x + 60)^\circ$
 $m\angle C = (x + 74)^\circ$ *obtuse*

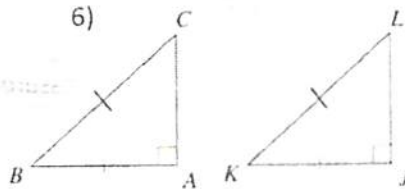
Direction: Classify the triangle by its sides.



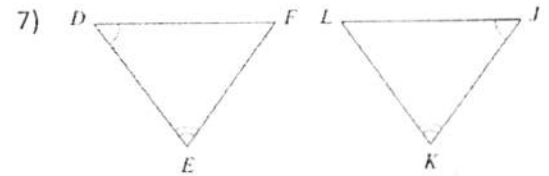
Directions: Determine if the triangles are congruent. If they are, justify your answer & write a triangle congruence statement.



5) *ASA; $\triangle CDB \cong \triangle ABD$*

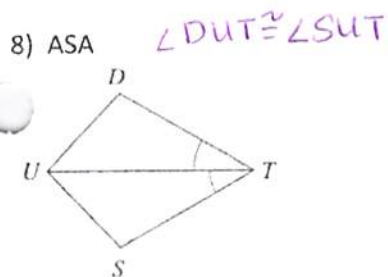


6) *HL; $\triangle BCA \cong \triangle KLJ$*

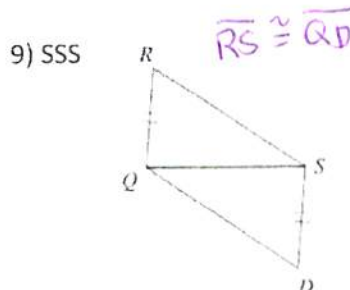


7) *no*

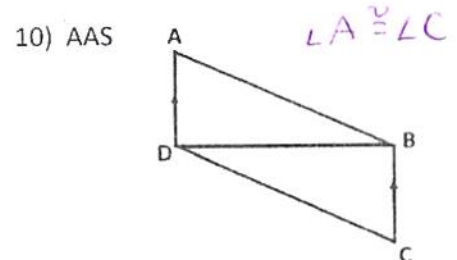
Directions: Determine the missing information needed to prove the triangles are congruent with the given theorem or postulate.



8) *ASA $\angle DUT \cong \angle SUT$*



9) *SSS $\overline{RS} \cong \overline{QD}$*

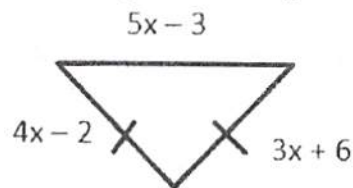


10) *AAS $\angle A \cong \angle C$*

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

$x = 5$
 $CE = 25$

- 12) What is the length of the longest side?



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

90°

- 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?

$36^\circ, 36^\circ, 108^\circ$

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

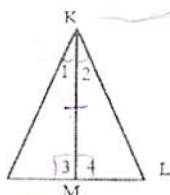
$\overline{AB}, \overline{BC}, \overline{AC}$
 $\angle C, \angle A, \angle B$

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

no

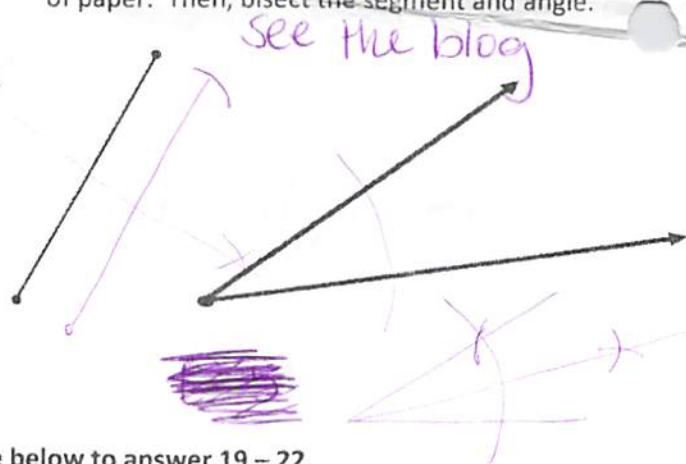
- 17) Given: $\angle 1 \cong \angle 2$
 $\angle 3 \cong \angle 4$

Prove: $\triangle JKL$ is isosceles

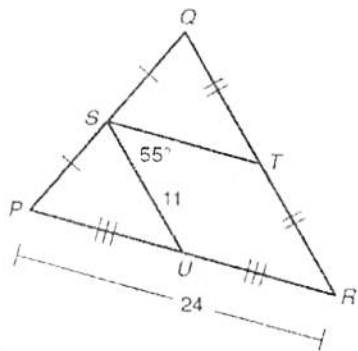


- | | |
|--|--|
| <p>S</p> <p>1) $\angle 1 \cong \angle 2$; $\angle 3 \cong \angle 4$</p> <p>2) $\overline{KM} \cong \overline{KM}$</p> <p>3) $\triangle KMJ \cong \triangle KML$</p> <p>4) $\overline{KJ} \cong \overline{KL}$</p> <p>5) $\triangle JKL$ is isos.</p> | <p>R</p> <p>1) Given</p> <p>2) Ref. Prop.</p> <p>3) ASA \cong</p> <p>4) CPCTC</p> <p>5) def. of isos \triangle's</p> |
|--|--|

- 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) $ST = 12$

20) $QR = 22$

21) $PU = 12$

22) $m\angle SUP = 55^\circ$