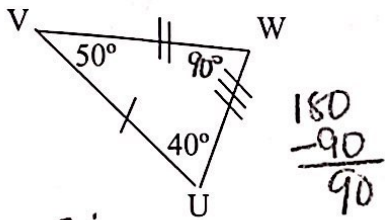


Geometry
Review - 4.1-4.5

Names Answer Key

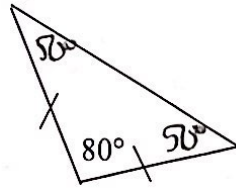
1. Classify the triangle according to sides and angles.



$$\frac{180 - 90}{90}$$

Right
Scalene
Triangle

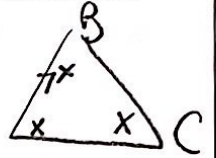
2. Classify the triangle according to sides and angles.



$$\frac{180 - 80}{2} = 50$$

Acute
Isosceles
Triangle

3. $\triangle ABC$ has angle measures:
 $m\angle A = x^\circ$
 $m\angle B = 7x^\circ$
 $m\angle C = x^\circ$



a) Find x.

$$x + x + 7x = 180$$

$$\frac{9x}{9} = \frac{180}{9}$$

$x = 20$

b) Find the measure of each angle.

$$m\angle A = 20^\circ$$

$$m\angle B = 7(20) = 140^\circ$$

$$m\angle C = 20^\circ$$

c) Classify the triangle according to the angles.

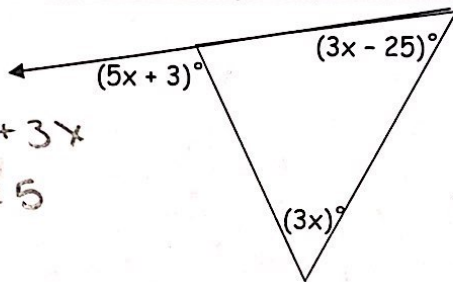
Obtuse Triangle

4. Find x.

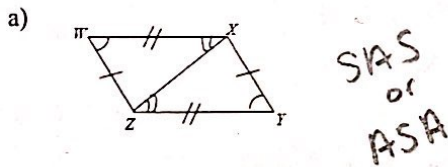
$$5x + 3 = 3x - 25 + 3x$$

$$5x + 3 = 6x - 25$$

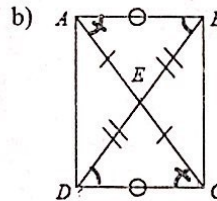
$28 = x$



5. Tell which triangle is congruent to the given triangle in each diagram.

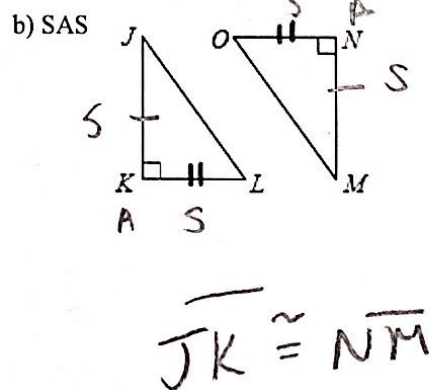
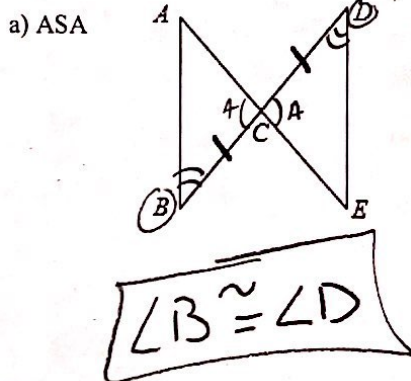


a) $\triangle WXZ \cong \triangle YZX$



b) $\triangle CED \cong \triangle AEB$

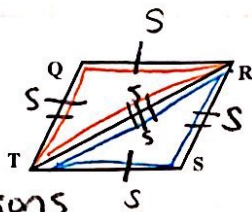
6. State what additional information is needed in order to have congruent triangles.



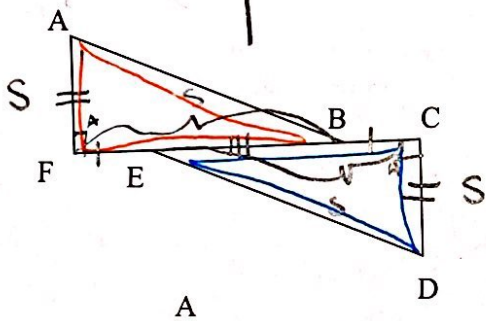
Write a two column proof:

7. Given: $QR = TS$, $TQ = RS$

Prove: $\Delta TQR \cong \Delta RST$



Statements	Reasons
① $QR = TS$ $TQ = RS$, diagram	① Given
② $\overline{QR} \cong \overline{TS}$ $\overline{TQ} \cong \overline{RS}$	② If segs have = measures, then they are \cong
③ $\overline{TR} \cong \overline{TR}$	③ Reflexive POC
④ $\Delta TQR \cong \Delta RST$	④ SSS (2, 2, 3)



*Need whole seg

9. Given: $AF \perp FB$, $CD \perp CE$, $FE \cong BC$, $AF \cong CD$

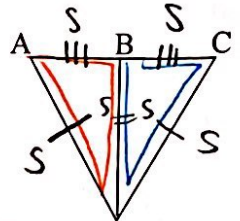
Prove: $\Delta ABF \cong \Delta DEC$

Statements	Reasons
① $AF \perp FB$, $CD \perp CE$ $FE \cong BC$	① Given
② $AF \cong CD$, diagram	
③ $\angle F$ and $\angle C$ are rt \angle s	② If segs are \perp , then they form rt \angle s.
④ $\angle F \cong \angle C$	③ If \angle s are rt \angle s, then they are \cong .
⑤ $\overline{FB} \cong \overline{EC}$	④ Reflexive POC
⑥ $\overline{FB} \cong \overline{EC}$	⑤ If \cong segs are added to the same seg, then the sums are \cong
⑦ $\Delta ABF \cong \Delta DEC$	⑥ SAS (1, 3, 5)

8. Given: $\overline{AD} \cong \overline{DC}$

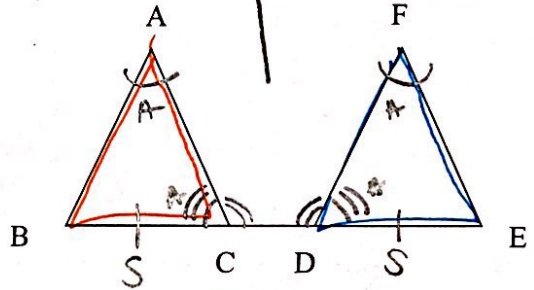
B is the midpoint of \overline{AC}

Prove: $\angle A \cong \angle C$



Statements	Reasons
① $\overline{AD} \cong \overline{DC}$ B is the midpoint of \overline{AC} diagram	① Given
② $\overline{BD} \cong \overline{BD}$	② Reflexive POC
③ $\overline{AB} \cong \overline{BC}$	③ If a pt is the midpoint, then it divides the seg into 2 \cong segs.
④ $\Delta ABD \cong \Delta CBD$	④ SSS (1, 2, 3)
⑤ $\angle A \cong \angle C$	⑤ CPCTC

10.



Given: $\angle A \cong \angle F$, $\overline{BC} \cong \overline{DE}$, $\angle ACD \cong \angle FDC$

Prove: $\Delta ABC \cong \Delta FED$

Statements	Reasons
① $\angle A \cong \angle F$	① Given
② $\overline{BC} \cong \overline{DE}$ $\angle ACD \cong \angle FDC$ diagram	
③ $\angle BCA$ and $\angle ACD$ form a linear pair $\angle FDE$ and $\angle FDC$ form a linear pair	② Assumed by diagram
④ $\angle BCA$ and $\angle ACD$ are supp $\angle FDE$ and $\angle FDC$ are supp	③ If \angle s form a linear pair, then they are supp.
⑤ $\angle BCA \cong \angle FDE$	④ If \angle s are supp to $\cong \angle$ s, then they are \cong
⑥ $\Delta ABC \cong \Delta FED$	⑤ AAS (1, 4, 1)