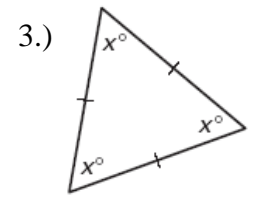
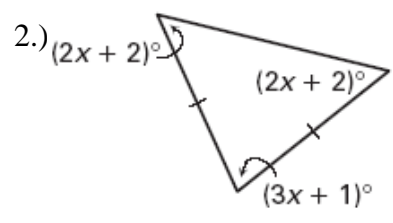
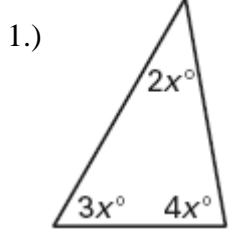
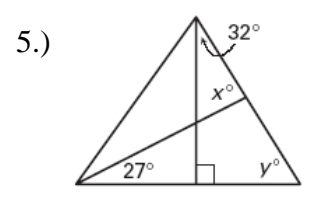
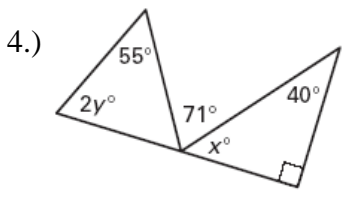


Classify the triangle by its sides. Then find the value of  $x$  and classify the triangle by its angles.

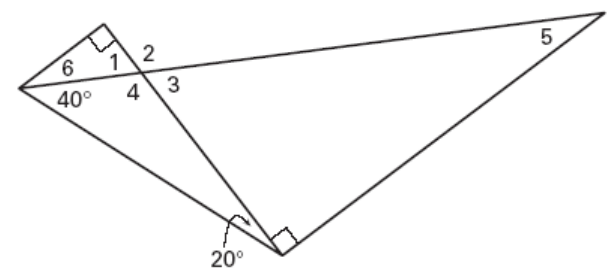


Find the value of  $x$  and  $y$ .



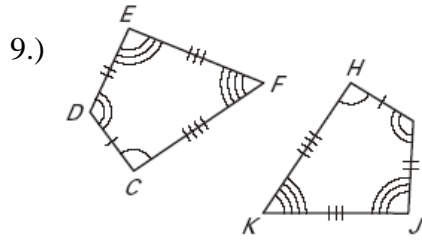
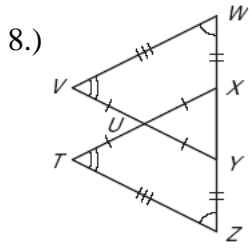
6.) Find the measure of the numbered angle

- a.)  $m\angle 1$
- b.)  $m\angle 2$
- c.)  $m\angle 3$
- d.)  $m\angle 4$
- e.)  $m\angle 5$
- f.)  $m\angle 6$

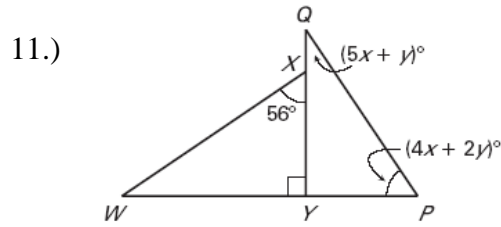
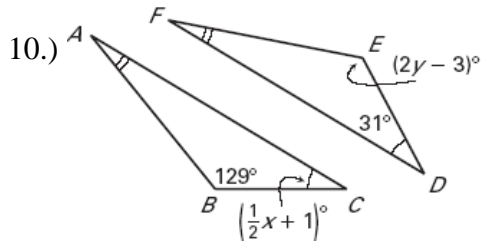


7.) A 30 inch piece of metal wire is used to make the triangular portion of a coat hanger. One side of this isosceles triangle is 8 inches. Find two different sets of measurements to make the coat hanger.

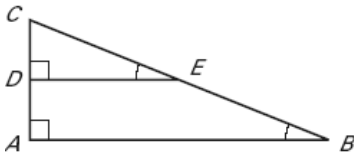
Write a congruence statement for any figures that can be proved congruent. Explain your reasoning.



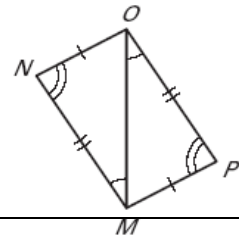
Find the value of  $x$  and  $y$ .



12.) A fellow student says that  $\triangle ABC \cong \triangle DEC$  because the corresponding angles of the triangles are congruent. Describe the error in this statement.



13.) **GIVEN:**  $\angle MNO \cong \angle OPM$ ,  $\angle NMO \cong \angle POM$  and  $\overline{NO} \cong \overline{MP}$ ,  $\overline{NM} \cong \overline{OP}$   
**PROVE:**  $\triangle NMO \cong \triangle POM$



**Statements**

1.  $\angle MNO \cong \angle OPM$ ,  $\angle NMO \cong \angle POM$   
and  $\overline{NO} \cong \overline{MP}$ ,  $\overline{NM} \cong \overline{OP}$
2.  $\overline{MO} \cong \overline{MO}$
3.  $\angle NOM \cong \angle PMO$
4.  $\triangle NMO \cong \triangle POM$

**Reasons**

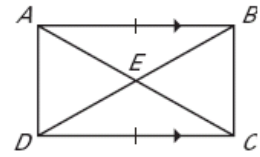
1. Given

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

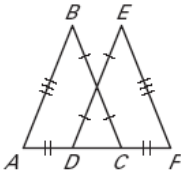
- 14.) **GIVEN:**  $AB \parallel DC$ ,  $\overline{AB} \cong \overline{DC}$ , and E is the midpoint of  $\overline{AD}$  and  $\overline{BC}$   
**PROVE:**  $\triangle AEB \cong \triangle CED$



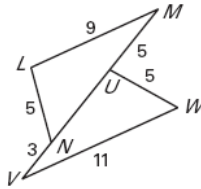
Statements	Reasons
1. $AB \parallel DC$ , $\overline{AB} \cong \overline{DC}$ and E is the midpoint of $\overline{AD}$ and $\overline{BC}$	1. Given
2. $\overline{AE} \cong \overline{CE}$ and $\overline{BE} \cong \overline{DE}$	2. _____
3. $\angle EAB \cong \angle ECD$ and $\angle ABD \cong \angle BDC$	3. _____
4. $\angle AEB \cong \angle CED$	4. _____
5. $\triangle AEB \cong \triangle CED$	5. _____

Decide whether the congruence statement is true. **Explain** your reasoning.

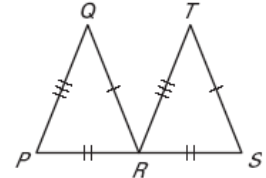
- 15.)  $\triangle ABC \cong \triangle FED$



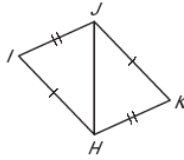
- 16.)  $\triangle LMN \cong \triangle UVW$



- 17.)  $\triangle PQR \cong \triangle RTS$

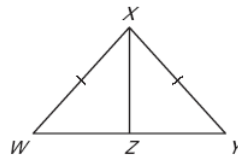


- 18.) **GIVEN:**  $\overline{HI} \cong \overline{JK}$  and  $\overline{IJ} \cong \overline{KH}$   
**PROVE:**  $\triangle HIJ \cong \triangle JKH$



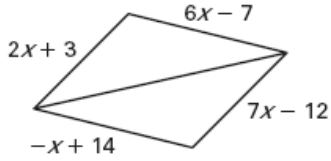
Statements	Reason
1. _____	1. Given
2. _____	2. Reflexive property of Congruence
3. _____	3. SSS Congruence Postulate

- 19.) **GIVEN:**  $\overline{WX} \cong \overline{YX}$  and Z is the midpoint of  $\overline{WY}$   
**PROVE:**  $\triangle WXZ \cong \triangle YXZ$

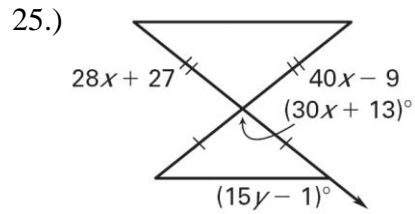
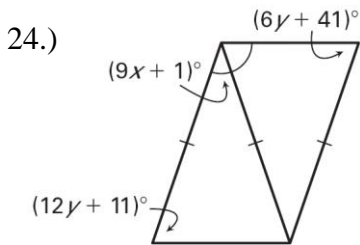
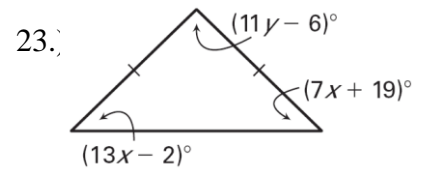
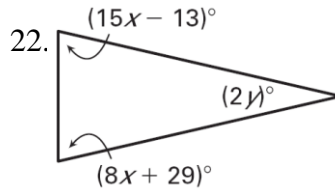
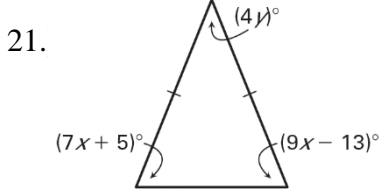


Statements	Reason
1. _____	1. Given
2. _____	2. Definition of Midpoint
3. _____	3. Reflexive property of Congruence
4. _____	4. SSS Congruence Postulate

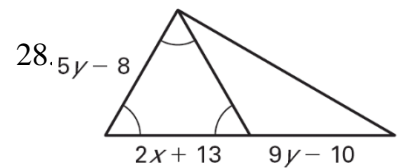
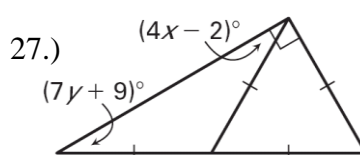
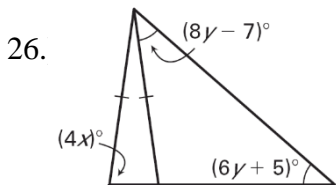
20.) Find all values of  $x$  that make the triangles congruent.



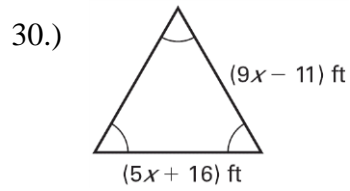
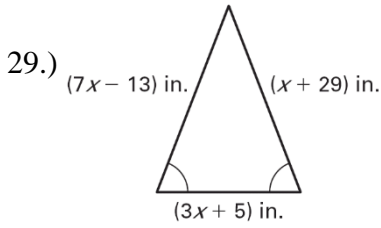
Find the values of  $x$  and  $y$ .



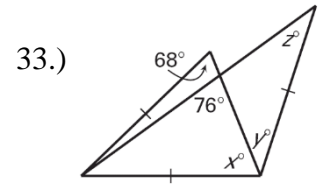
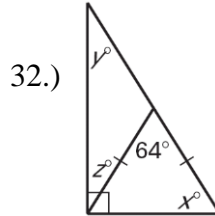
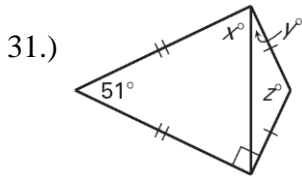
Find the values of  $x$  and  $y$ , if possible. If not possible, explain your reasoning.



Find the perimeter of the triangle.



Find the values of  $x$ ,  $y$ , and  $z$ .



34.) **GIVEN:**  $\angle BAC \cong \angle BCA$  and  $\overline{BD} \cong \overline{BE}$   
**PROVE:**  $\angle BDC \cong \angle BEA$

**Statements**

1.  $\angle BAC \cong \angle BCA$

2. \_\_\_\_\_

3.  $\angle B \cong \angle B$

4. \_\_\_\_\_

5. \_\_\_\_\_

6. \_\_\_\_\_

**Reasons**

1. \_\_\_\_\_

2. Converse of Base Angles Theorem

3. \_\_\_\_\_

4. Given

5. SAS Congruence Postulate

6. \_\_\_\_\_

