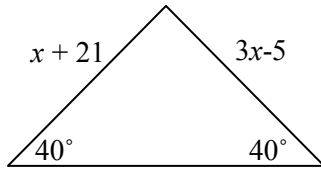
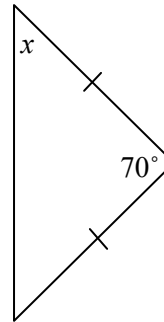


Find the value of x .

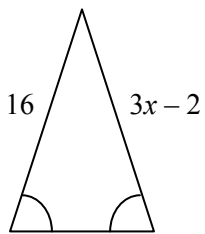
1)



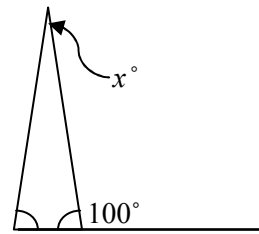
2)



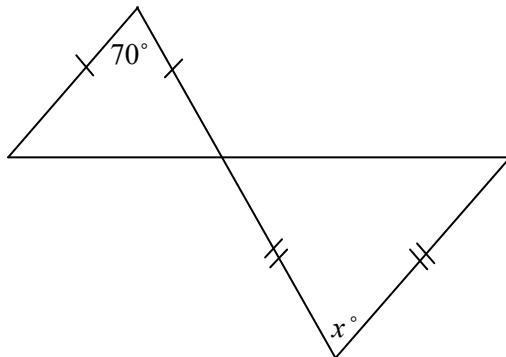
3)



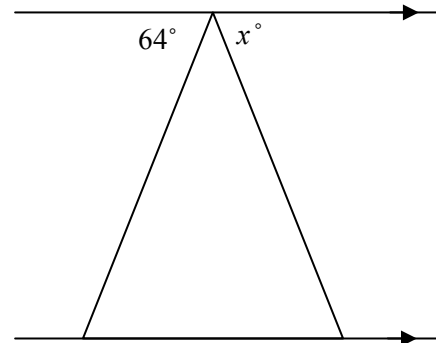
4)



5)

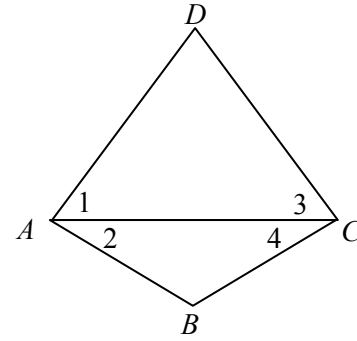


6)

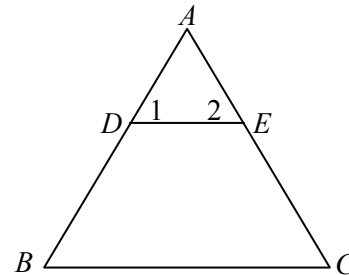


Write a Two Column Proof.

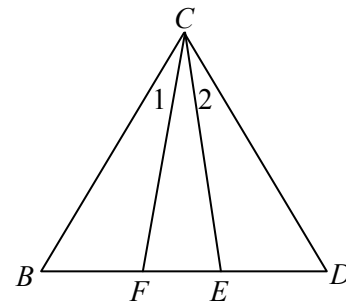
- 7) Given: $\overline{AB} \cong \overline{CB}$, $\overline{AD} \cong \overline{CD}$
 Prove: $m\angle BAD \cong m\angle BCD$



- 8) Given: $\overline{AB} \cong \overline{AC}$, $\angle B \cong \angle 2$, $\angle C \cong \angle 1$,
 Prove: $\triangle ADE$ is isosceles



- 9) Given: $\overline{BC} \cong \overline{DC}$, $\overline{BF} \cong \overline{DE}$
 Prove: $\angle 1 \cong \angle 2$



Answer Key

- 1) $x = 13$
- 2) $x = 55$
- 3) $x = 6$
- 4) $x = 20$
- 5) $x = 70$
- 6) $x = 64$

$\overline{AB} \cong \overline{CB}, \overline{AD} \cong \overline{CD}$ Given

$\angle 2 \cong \angle 4, \angle 1 \cong \angle 3$ Isosceles Triangle Theorem

7) $m\angle 1 + m\angle 2 = m\angle 3 + m\angle 4$ Addition Property of Equality

$m\angle BAD = m\angle 1 + m\angle 2; m\angle BCD = m\angle 3 + m\angle 4$ Angle Addition Postulate

$m\angle BAD = m\angle BCD$ Substitution

$\overline{AB} \cong \overline{AC}$ Given

$\angle B \cong \angle C$ Isosceles Triangle Theorem

8) $\angle B \cong \angle 2; \angle C \cong \angle 1$ Given

$\angle 1 \cong \angle 2$ Substitution Property

$\overline{AD} \cong \overline{AE}$ If two angles of a triangle are \cong , then the sides opposite those angles are \cong
 $\triangle ADE$ is isosceles Definition of Isosceles Triangle

$\overline{BC} \cong \overline{DC}, \overline{BF} \cong \overline{DE}$ Given

9) $\angle B \cong \angle D$ Isosceles Triangle Theorem

$\triangle CBF \cong \triangle CDE$ SAS

$\angle 1 \cong \angle 2$ CPCTC