

Given
 $\overline{AB} \cong \overline{DC}$
 $\overline{AB} \parallel \overline{CD}$

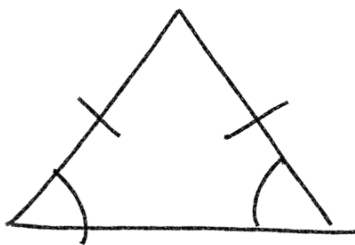
Prove:
 $\overline{AD} \cong \overline{BC}$

Statement

$\overline{AB} \cong \overline{DC}$
 $\overline{AB} \parallel \overline{CD}$
 $\overline{BD} \cong \overline{DB}$
 $\angle ABD \cong \angle CDB$
 $\triangle ADB \cong \triangle CBD$
 $\overline{AD} \cong \overline{BC}$

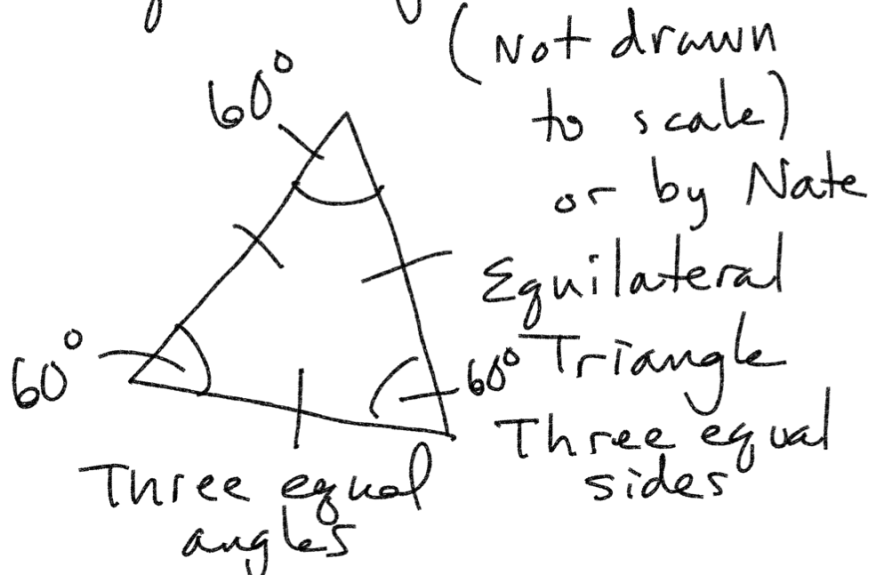
Reasons

Given
 Given
 Reflexive Property
 Alternate Interior Angles
 SAS
 CPCTC



Isosceles Triangle
 Two equal sides
 Two equal angles

Equal sides open to
 equal angles

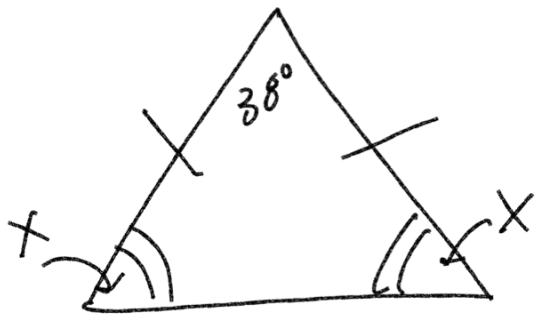


(Not drawn to scale)
 or by Nate

Equilateral Triangle
 Three equal sides

Three equal angles

Isosceles Triangles



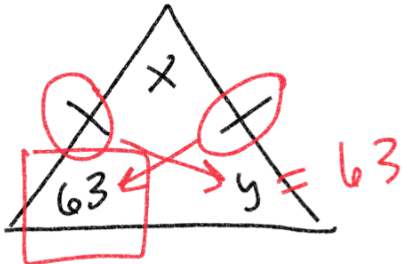
$$180^\circ = 38^\circ + X + X$$

$$180^\circ = 38 + 2X$$
$$\begin{array}{r} -38 \\ -38 \end{array}$$

$$\frac{142}{2} = \frac{2X}{2}$$

$$\boxed{71 = X}$$

1.)

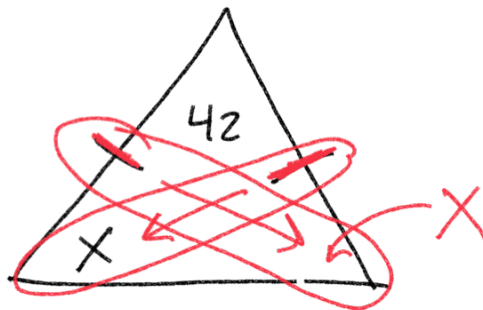


$$180 = X + 2(63)$$

$$180 = X + 126$$
$$\begin{array}{r} -126 \\ -126 \end{array}$$

$$\boxed{54 = X}$$

2.)



$$180 = 42 + 2X$$
$$\begin{array}{r} -42 \\ -42 \end{array}$$

$$\frac{138}{2} = \frac{2X}{2}$$

$$\boxed{X = 69}$$

Assignment

Find the value of x .

1)

$180 = x + 44$
 $-44 \quad -44$
 $x = 136$

$180 = a + 2(67)$
 $180 = a + 134$
 $-134 \quad -134$
 $46 = a$

$90 = 46 + b$

2)

$90 = 34 + 56$
 $x = 130$

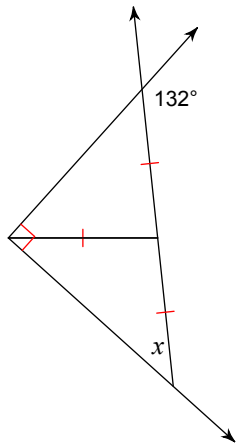
3)

$60 = x$

4)

$180 = x + 2(56)$
 $180 = x + 112$
 $-112 \quad -112$
 $68 = x$

5)



6)

