

Solve for x:

3.



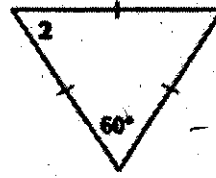
$x = 47$

4.



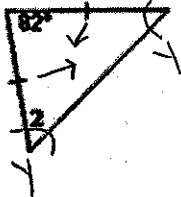
$2x + 26 = 180$
 $2x = 154$
 $x = 77/2$

5. $m\angle 2 = x + 70$



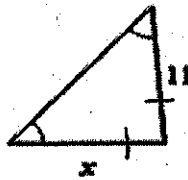
equilateral
 $\angle 2 = 60$
 $60 = x + 70$
 $-70 \quad -70$
 $-10 = x$

6. $m\angle 2 = 3x + 19$



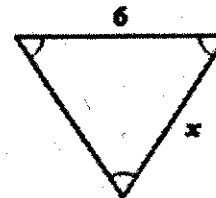
$y + y + 82 = 180$
 $2y + 82 = 180$
 $2y = 98$
 $y = 49$

7.



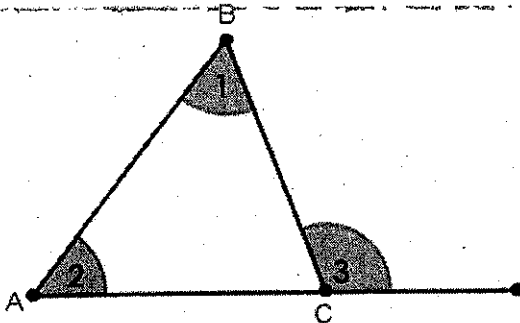
$x = 11$

8.



$x = 6$

Exterior Angle Theorem

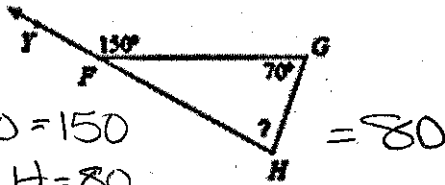


The measure of an exterior angle of a triangle is equal to the sum of the measures of the two opposite interior angles of the triangle.

$\angle 1 + \angle 2 = \angle 3$

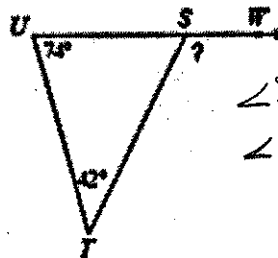
Solve for the missing angle:

9.



$\angle H + 70 = 150$
 $\angle H = 80$

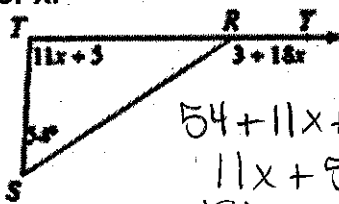
10.



$\angle S = 74 + 42$
 $\angle S = 116$

Solve for x:

11.

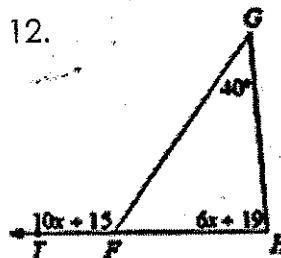


$54 + 11x + 3 = 3 + 18x$
 $11x + 57 = 3 + 18x$
 $-18x \quad -18x$
 $-7x + 57 = 3$

$x = 54/7$

$-57 - 57$
 $-7x = -54$

12.

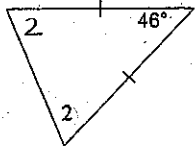


$6x + 19 + 40 = 10x + 15$
 $6x + 59 = 10x + 15$
 $-10x \quad -10x$

1.3 - Practice

Find the value of x.

1) $m\angle 2 = 5x + 7$



$$2y + 46 = 180$$

$$2y = 134$$

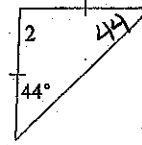
$$y = 67$$

$$67 = 5x + 7$$

$$60 = 5x$$

$$12 = x$$

2) $m\angle 2 = 15x + 2$



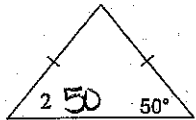
$$\angle 2 = 92$$

$$92 = 15x + 2$$

$$90 = 15x$$

$$6 = x$$

3) $m\angle 2 = 3x + 17$

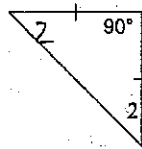


$$50 = 3x + 17$$

$$33 = 3x$$

$$11 = x$$

4) $m\angle 2 = 4x + 5$



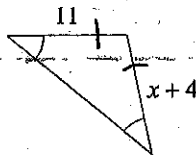
$$\angle 2 = 45$$

$$45 = 4x + 5$$

$$40 = 4x$$

$$10 = x$$

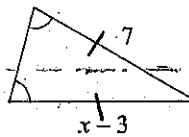
5)



$$x + 4 = 11$$

$$x = 7$$

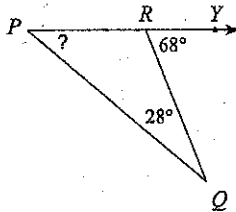
6)



$$x - 3 = 7$$

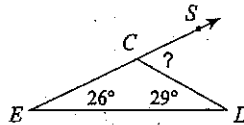
Find the measure of each angle indicated.

7)



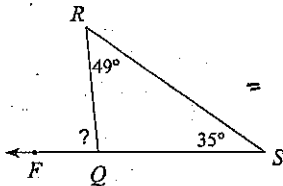
$$\angle P = 40$$

8)



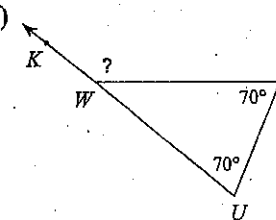
$$= 55$$

9)



$$= 84$$

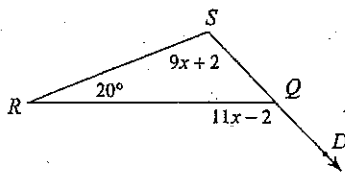
10)



$$= 140$$

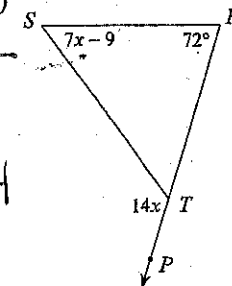
Solve for x.

11)



$$20 + 9x + 2 = 11x - 2$$

$$\begin{array}{r} 20 + 9x + 2 = 11x - 2 \\ -11x \quad -11x \\ \hline 22 - 2x = -2 \\ -22 \quad -22 \\ \hline -2x = -24 \\ x = 12 \end{array}$$



$$14x = 7x - 9 + 72$$

$$14x = 7x + 63$$

$$\begin{array}{r} 14x = 7x + 63 \\ -7x \quad -7x \\ \hline 7x = 63 \\ x = 9 \end{array}$$