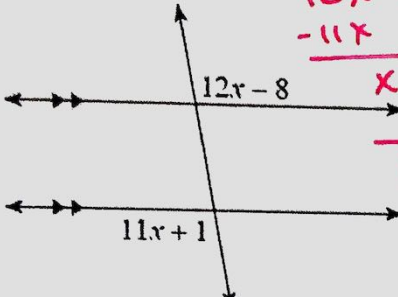


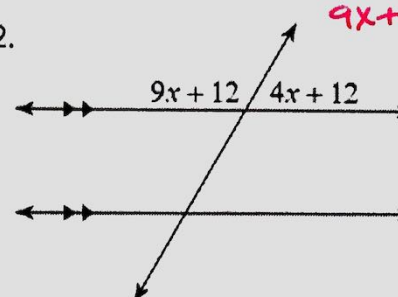
Geometry - DAY 3.2
Triangle Angles

Name: _____

Date: _____

WARM-UP:

1. 
$$\begin{array}{r} 12x - 8 = 11x + 1 \\ -11x \quad -11x \\ \hline x - 8 = 1 \\ +8 \quad +8 \\ \hline \boxed{x = 9} \end{array}$$

2. 
$$\begin{array}{r} 9x + 12 + 4x + 12 = 180 \\ 13x + 24 = 180 \\ -24 \quad -24 \\ \hline 13x = 156 \\ \boxed{x = 12} \end{array}$$

TRIANGLE SUM

The sum of the measures of the interior angles of a triangle is 180°.

Find the missing angle measure that would make a triangle.

1. Angle A: 72 degrees
Angle B: 63 degrees
Angle C: 45°

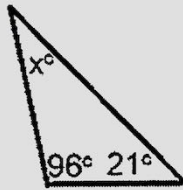
$$\begin{array}{r} 72 + 63 = 135 \\ 180 - 135 \\ = 45 \end{array}$$

2. Angle D: 48°
Angle E: 119 degrees
Angle F: 13 degrees

$$\begin{array}{r} 119 + 13 = 132 \\ 180 - 132 = 48 \end{array}$$

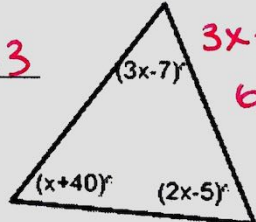
Find the value of x in each figure.

3. $x = \underline{63^\circ}$



$$\begin{array}{r} 96 + 21 = 117 \\ x + 117 = 180 \\ x = 63 \end{array}$$

4. $x = \underline{25.3}$

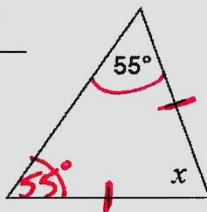


$$\begin{array}{r} 3x - 7 + x + 40 + 2x - 5 = 180 \\ 6x + 28 = 180 \\ 6x = 152 \\ x = 25.3 \end{array}$$

Isosceles Triangles & Base Angles

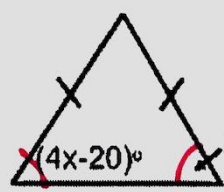
If two **sides** of a triangle are congruent, then the base angles of those sides are congruent.

5. $x = \underline{70^\circ}$



$$\begin{array}{r} 55 + 55 = 110 \\ 180 - 110 \\ = 70 \end{array}$$

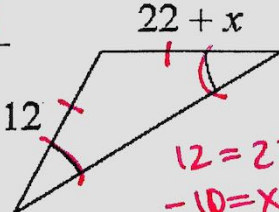
6. $x = \underline{20}$



$$\begin{array}{r} 4x - 20 = 3x \\ -20 = -x \\ \boxed{x = 20} \end{array}$$

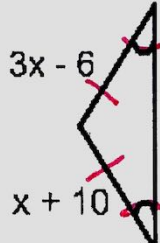
If two **angles** of a triangle are congruent, then the sides opposite those angles are congruent.

7. $x = \underline{-10}$



$$\begin{array}{r} 12 = 22 + x \\ -10 = x \end{array}$$

8. $x = \underline{8}$



$$\begin{array}{r} 3x - 6 = x + 10 \\ 2x = 16 \\ \boxed{x = 8} \end{array}$$

PRACTICE!!! Classwork!

Find the missing angle measure that would make a triangle.

1. Angle A: 108 degrees
 Angle B: 32 degrees
 Angle C: 40°
- $$\begin{array}{r} 108 \\ +32 \\ \hline 140 \\ 180 \\ -140 \\ \hline 40 \end{array}$$

2. Angle D: 66°
 Angle E: 57 degrees
 Angle F: 57 degrees
- $$\begin{array}{r} 57 \\ +57 \\ \hline 114 \\ 180 \\ -114 \\ \hline 66 \end{array}$$

Solve for the missing angle or x.

3. $\varnothing =$ 76°
-
- $$\begin{array}{r} 67 \\ +37 \\ \hline 104 \\ 180 \\ -104 \\ \hline 76 \end{array}$$

4. $\varnothing =$ 60°
-
- $$\begin{array}{r} 71 \\ +49 \\ \hline 120 \\ 180 \\ -120 \\ \hline 60 \end{array}$$

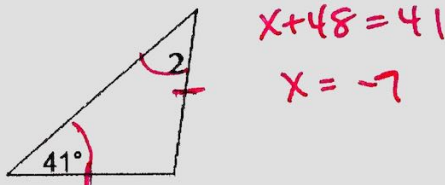
5. $x =$ 8
-
- $$\begin{aligned} 80 + 50 + 7x - 6 &= 180 \\ 7x + 124 &= 180 \\ 7x &= 56 \\ x &= 8 \end{aligned}$$

6. $x =$ -1
-
- $$\begin{aligned} 79 + 47 + x + 55 &= 180 \\ x + 181 &= 180 \\ x &= -1 \end{aligned}$$

7. $x =$ 60°
-

8. $x =$ 72°
-
- $$\begin{aligned} 54 + 54 &= 108 \\ 180 - 108 &= 72 \end{aligned}$$

9. $x =$ -7
 $m\angle 2 = x + 48$



10. $x =$ 12
-
- $$\begin{aligned} x - 2 &= 10 \\ x &= 12 \end{aligned}$$

11. $x =$ 11
-

12. $x =$ -12
-
- $$\begin{aligned} x + 21 &= 9 \\ x &= -12 \end{aligned}$$