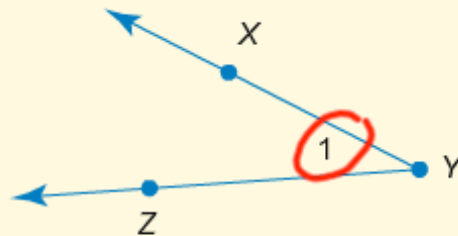


1. Name the angle shown at the right. Then classify it as acute, right, obtuse, or straight.



1

$\angle X Y Z$ $\angle Z Y X$ $\angle Y$

2

$\angle 1$

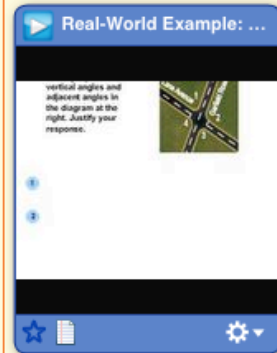
3

acute

4

media

2. Identify a pair of vertical angles and adjacent angles in the diagram at the right. Justify your response.



1

2



Adjacent
 $\angle 3$ & $\angle 4$
 $\angle 1$ & $\angle 4$
 $\angle 2$ & $\angle 3$
 $\angle 1$ & $\angle 2$

← supplementary

2. Identify a pair of vertical angles and adjacent angles in the diagram at the right. Justify your response.



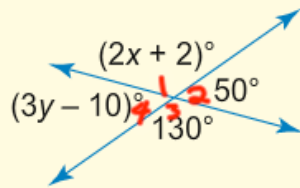
\cong congruent

Vertical

$$\angle 1 \cong \angle 3$$

$$\angle 2 \cong \angle 4$$

3. What is the value of x in the figure?



1

$$m\angle 1 = (2x + 2)^\circ$$

$$m\angle 2 = 50^\circ$$

$$m\angle 3 = 130^\circ$$

2

3

$$m\angle 4 = (3y - 10)^\circ$$

Solve for x

$\angle 1$ & $\angle 3$ are vertical
 $\therefore m\angle 1 = m\angle 3$ Def. vert. angle
 subst.

$$2x + 2 = 130$$

$$\frac{2x + 2}{-2} = \frac{130}{-2}$$

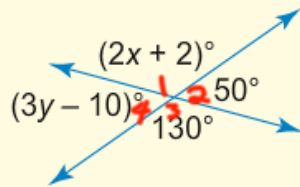
$$2x = 128$$

$$\frac{2x}{2} = \frac{128}{2}$$

$$x = 64^\circ$$

$$\begin{aligned} m\angle 1 &= 2x + 2 \\ &= 2(64) + 2 \text{ subst.} \\ &= 130 \checkmark \end{aligned}$$

3. What is the value of x in the figure?



1

$$m\angle 1 = (2x + 2)^\circ$$

2

$$m\angle 2 = 50^\circ$$

3

$$m\angle 3 = 130^\circ$$

$$m\angle 4 = (3y - 10)^\circ$$

Solve for y

$\angle 4$ & $\angle 2$ are vert.

$$\therefore m\angle 4 = m\angle 2$$

$$3y - 10 = 50 \quad \text{subst.}$$

$$\begin{array}{r} 3y = 60 \\ \underline{\quad 3} \quad \underline{\quad 3} \end{array}$$

$$y = 20^\circ$$

$$3(20) - 10 \stackrel{?}{=} 50$$

$$40 - 10 = 50$$

$$50 = 50 \quad \checkmark$$

4. What is the value of x shown in the sidewalk?



$\angle 115^\circ$ & $\angle (5x)^\circ$
are supplementary

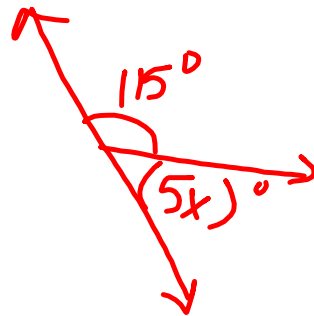
$$\therefore 115^\circ + (5x)^\circ = 180^\circ$$

$$\begin{array}{r} 115 + 5x = 180 \\ -115 \quad -115 \\ \hline \end{array}$$

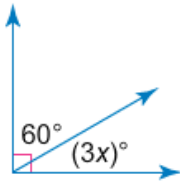
$$\frac{5x = 65}{5} = \frac{65}{5}$$

$$x = 13^\circ$$

$$5x = 5(13)^\circ = 65^\circ \checkmark$$



What is the value of x in the figure?



Answer

□ means a right angle
 $\angle 60^\circ$ & $\angle 3x^\circ$ are complementary

$$\therefore 60^\circ + 3x^\circ = 90^\circ$$

-60

-60

$$\frac{3x}{3} = \frac{30}{3}$$

$$x = 10^\circ$$

$$3x = 3 \cdot 10 = 30$$