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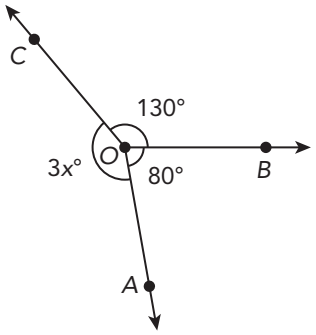
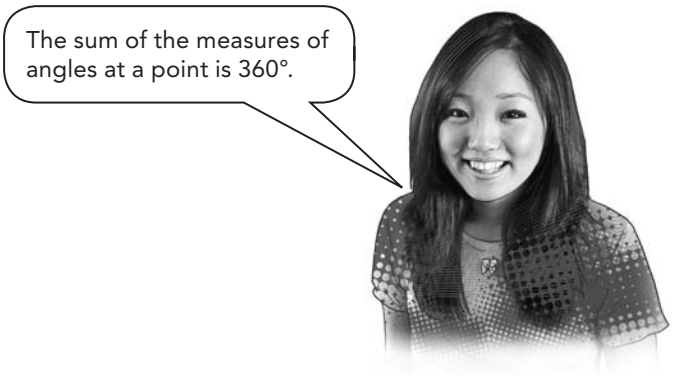
Lesson 6.2 Angles that Share a Vertex

Find the value of *x* in each diagram.

Example

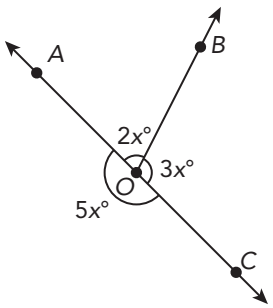




$m\angle AOC + m\angle COB + m\angle BOA = 360°$	∠s at a point
$3x° + 130° + 80° = 360°$	Substitute.
$3x° + 210° = 360°$	Simplify.
$3x° + 210° - 210° = 360° - 210°$	Subtract 210° from both sides.
$3x = 150$	Simplify.
$\frac{3x}{3} = \frac{150}{3}$	Divide both sides by 3.
$x = 50$	Simplify.

Complete.

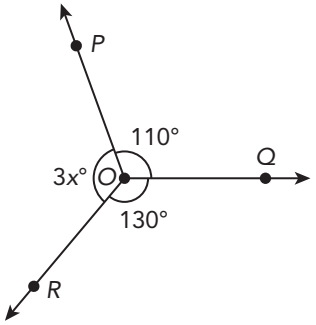
1.



$m\angle COA + m\angle AOB + m\angle BOC =$ _____	∠s at a point
$5x° +$ _____ + _____ = _____	
_____ = _____	
_____ = _____	
$x =$ _____	

Find the value of *x* in each diagram.

2.



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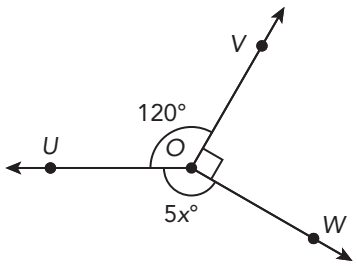
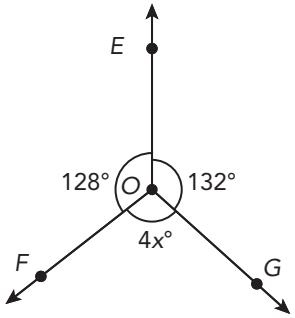
Find the value of *x* in each diagram.

3.



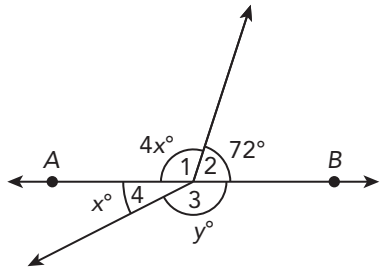
4.



Find the value of each variable.

Example

$\overleftrightarrow{AB}$ is a straight line.



$m\angle 1 + m\angle 2 = 180°$ Adj. ∠s on a st. line
$4x° + 72° = 180°$
$4x° + 72° - 72° = 180 - 72°$
$4x = 108°$
$x = 27°$

$m\angle 3 + m\angle 4 = 180°$ Adj. ∠s on a st. line
$x° + y° = 180°$
$27° + y° = 180°$
$y° + 27° - 27° = 180° - 27°$
$y = 153°$

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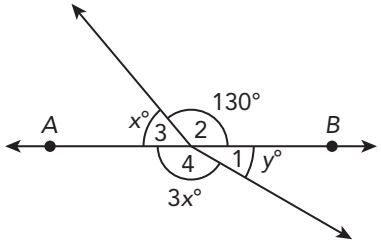
Complete.

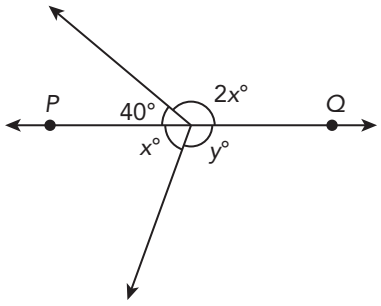
5. $\overleftrightarrow{AB}$ is a straight line.



$m\angle 2 + m\angle 3 =$ _____	Adj. ∠s on a st. line
$130° +$ _____ $=$ _____	Substitute.
$130° +$ _____ $-$ _____ $=$ _____ $-$ _____	Subtract 130° from both sides.
$x =$ _____	Simplify.
$m\angle 1 + m\angle 4 =$ _____	Adj. ∠s on a st. line
_____ $+$ _____ $=$ _____	Substitute.
_____ $+$ _____ $\cdot$ _____ $=$ _____	Substitute $x =$ _____.
_____ $+$ _____ $=$ _____	Simplify.
_____ $+$ _____ $-$ _____ $=$ _____ $-$ _____	Subtract 150° from both sides.
$y =$ _____	Simplify.

Find the value of each variable.

6. $\overleftrightarrow{PQ}$ is a straight line. Find the value of each variable.



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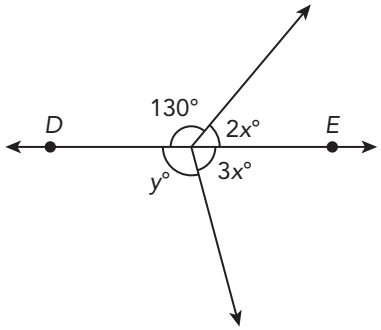
Find the value of each variable.

7. $\overleftrightarrow{DE}$ is a straight line.



8. $\overleftrightarrow{BC}$ is a straight line.