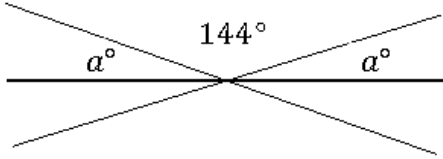# Using Algebra to Find Missing Angle Measures

NAME_____

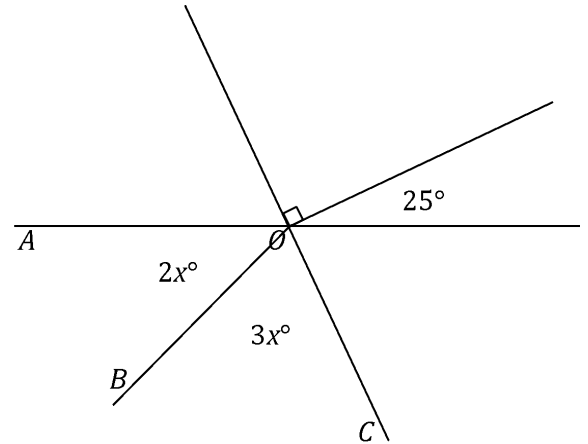Write an equation to find the missing angle measures.

1.

$144°$

$a°$ $a°$

2.

A

$25°$

$2x°$

$3x°$

B

C

a = _____

<AOB = _____   <BOC = _____

3. Three lines meet at a point that is also the endpoint of a ray. Set up and solve an equation to find the value of each variable in the diagram.
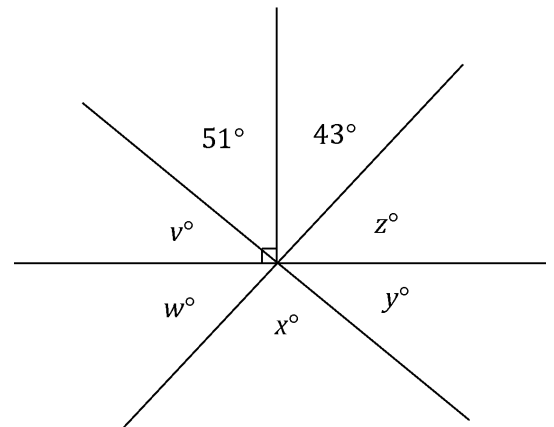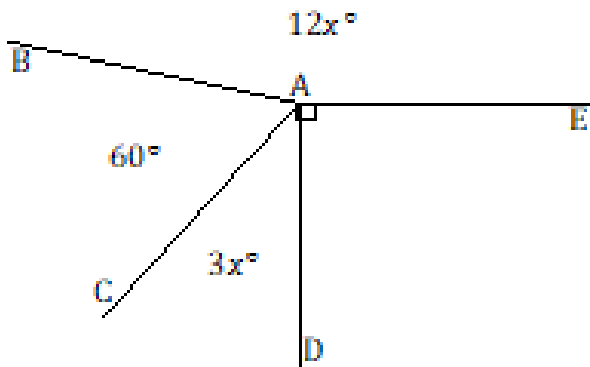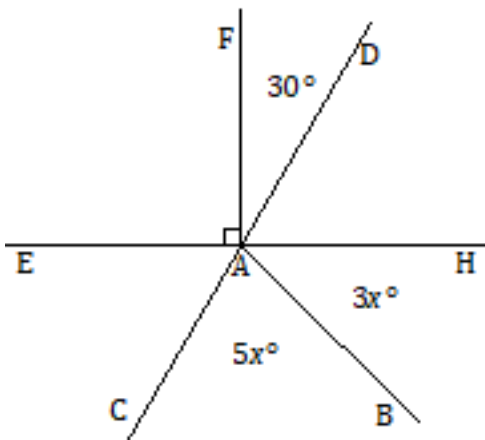
V = _____

W = _____

X = _____

Y = _____

Z = _____

$51°$ $43°$

$v°$ $z°$

$w°$ $x°$ $y°$

4. Set up and solve an equation to find x and then find each angle in the diagram.

$12x°$

B

A

E

$60°$

$3x°$

C

D

<BAE = _____

<EAD = _____

<DAC = _____

<CAB = _____

5. Set up and solve an equation to find x and then find each angle in the diagram.

F

D

$30°$

E

A

H

$3x°$

$5x°$

C

B

<FAD = _____

<DAH = _____

<HAB = _____

<BAC = _____

<CAE = _____

<EAF = _____

6. Set up and solve an equation to find x and then find each angle in the diagram.
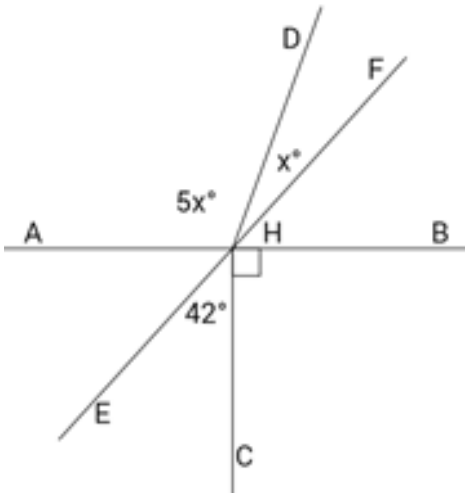
∠FHD = _____

∠FHB = _____

∠BHC = _____

∠CHE = _____
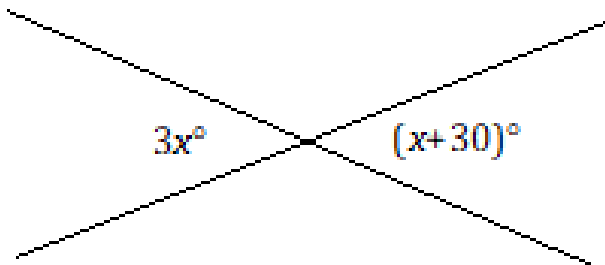
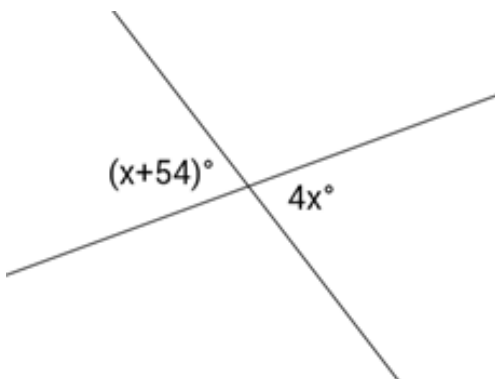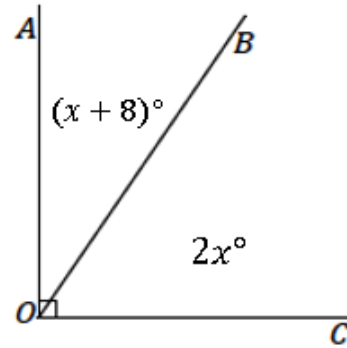∠EHA = _____

∠AHD = _____

7. Set up and solve an equation to find x. Then find the measure of each angle in the diagram.

$3x°$ $(x+30)°$

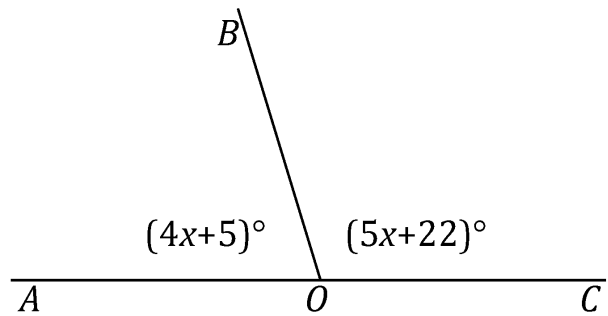8. Set up and solve an equation to find x. Then find the measure of each angle in the diagram.

$(x+54)°$

$4x°$

9. Set up and solve an equation to find the value of x. Find the measurement of $\angle AOB$ and of $\angle BOC$.

A
B
$(x + 8)°$
$2x°$
O
C

$\angle AOB =$ _____ $\angle BOC =$ _____

5. Set up and solve an equation to find the value of x. Find the measurement of $\angle AOB$ and of $\angle BOC$.

B
$(4x+5)°$ $(5x+22)°$
A   O   C

$\angle AOB =$ _____ $\angle BOC =$ _____

6. Set up and solve an equation to find the value of x. Then, find the measurement of each angle..

$10x°$ $2x°$