Homework 1:5 Answers

Nila Burt

1.5 pp.38-39

FINDING THE MIDPOINT Find the coordinates of the midpoint of a segment with the given endpoints.

18. $J(-1, 7)$
$K(3, -3)$

$$\left(\frac{-1+3}{2}, \frac{7+-3}{2}\right)$$

$$\left(\frac{2}{2}, \frac{4}{2}\right)$$

$$(1,2)$$

20. $P(-12, -9)$
$Q(2, 10)$

$$\left(\frac{-12+2}{2}, \frac{-9+10}{2}\right)$$

$$\left(\frac{-10}{2}, \frac{1}{2}\right)$$

$$\left(-5, \frac{1}{2}\right)$$

1.5 pp.38-39

FINDING THE MIDPOINT Find the coordinates of the midpoint of a segment with the given endpoints.

22. $E(4, 4)$
$F(4, -18)$

$$\left(\frac{4+4}{2}, \frac{4+-18}{2}\right)$$

$$\left(\frac{8}{2}, \frac{-14}{2}\right)$$

$$(4,-7)$$

24. $G(-5.5, -6.1)$
$H(-0.5, 9.1)$

$$\left(\frac{-5.5+-0.5}{2}, \frac{-6.1+9.1}{2}\right)$$

$$\left(\frac{-6}{2}, \frac{3}{2}\right)$$

$$\left(-3, \frac{3}{2}\right)$$

USING ALGEBRA Find the coordinates of the other endpoint of a segment with the given endpoint and midpoint *M*.

26. $T(-8, -1)$
$M(0, 3)$

$$\frac{-8+x}{2}=0 \qquad \frac{-1+y}{2}=3$$

$$-8+x=2(0) \qquad -1+y=2(3)$$

$$-8+x=0 \qquad -1+y=6$$

$$x=8 \qquad y=7$$

$$(8, 7)$$

USING ALGEBRA Find the coordinates of the other endpoint of a segment with the given endpoint and midpoint *M*.

28. $Q(-5, 9)$
$M(-8, -2)$

$$\frac{-5+x}{2} = -8 \qquad \frac{9+y}{2} = -2$$

$$-5+x = 2(-8) \qquad 9+y = 2(-2)$$

$$-5+x = -16 \qquad 9+y = -4$$

$$x = -11 \qquad y = -13$$

(-11, -13)

USING ALGEBRA Find the coordinates of the other endpoint of a segment with the given endpoint and midpoint *M*.

30. $D(-3.5, -6)$
$M(1.5, 4.5)$

$$\frac{-3.5+x}{2}=1.5$$

$$-3.5+x=2(1.5)$$

$$-3.5+x=3$$

$$x=6.5$$

$$\frac{-6+y}{2}=4.5$$

$$-6+y=2(4.5)$$

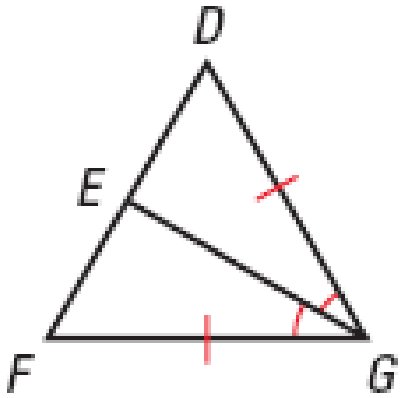
$$-6+y=9$$

$$y=15$$

(6.5, 15)

RECOGNIZING CONGRUENCE Use the marks on the diagram to name the congruent segments and congruent angles.

32.



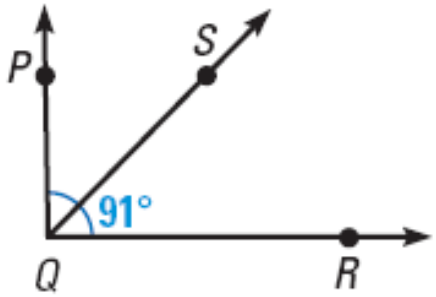
$\angle DGE \cong \angle FGE$

$\overline{GF} \cong \overline{GD}$

1.5 pp.38-39

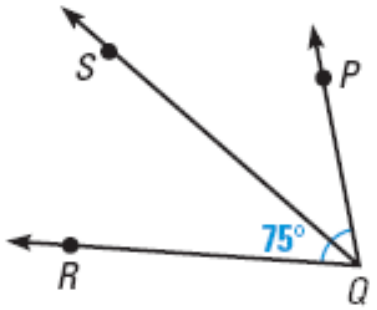
ANALYZING ANGLE BISECTORS $\overrightarrow{QS}$ is the angle bisector of $\angle PQR$. Find the two angle measures not given in the diagram.

38.



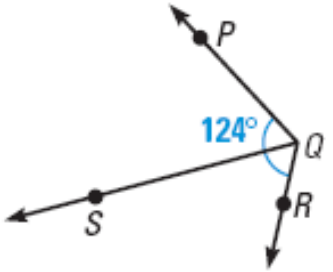
$$\frac{91°}{2} = 45.5°$$

40.



$$\frac{75°}{2} = 37.5°$$

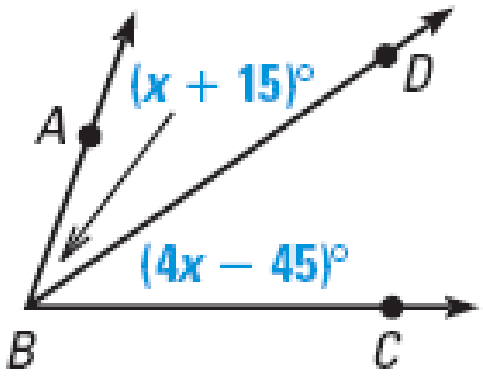
42.



$$\frac{124°}{2} = 62°$$

USING ALGEBRA $\overrightarrow{BD}$ bisects $\angle ABC$. Find the value of x.

44.



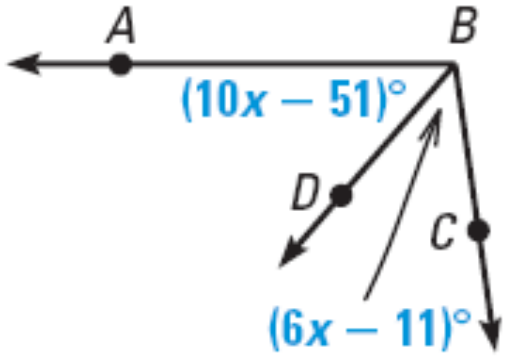
$x + 15 = 4x - 45$

$15 = 3x - 45$

$60 = 3x$

$20 = x$

46.



$10x - 51 = 6x - 11$

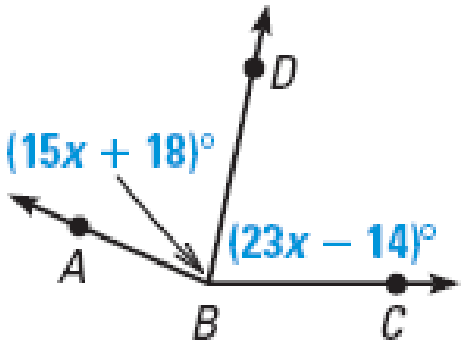
$4x - 51 = -11$

$4x = 40$

$x = 10$

USING ALGEBRA $\overrightarrow{BD}$ bisects $\angle ABC$. Find the value of x.

48.



$15x + 18 = 23x - 14$

$18 = 8x - 14$

$32 = 8x$

$4 = x$