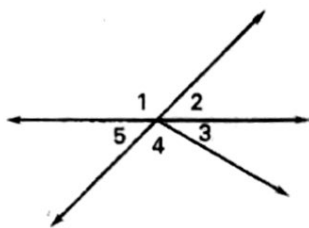


**Practice B**

For use with pages 44-50

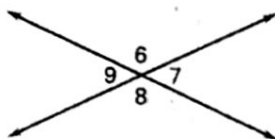
Use the figure at the right.

- Are  $\angle 1$  and  $\angle 2$  a linear pair? **yes**
- Are  $\angle 4$  and  $\angle 5$  a linear pair? **no**
- Are  $\angle 3$  and  $\angle 1$  vertical angles? **no**
- Are  $\angle 2$  and  $\angle 5$  vertical angles? **yes**



Use the figure at the right.

- If  $m\angle 6 = 51^\circ$ , then  $m\angle 7 = ?$   **$129^\circ$**
- If  $m\angle 8 = 103^\circ$ , then  $m\angle 6 = ?$   **$103^\circ$**
- If  $m\angle 9 = 136^\circ$ , then  $m\angle 8 = ?$   **$44^\circ$**
- If  $m\angle 7 = 53^\circ$ , then  $m\angle 9 = ?$   **$53^\circ$**



In Exercises 9-12, assume  $\angle A$  and  $\angle B$  are complementary and  $\angle B$  and  $\angle C$  are supplementary.

- If  $m\angle A = 48^\circ$ , then  $m\angle B = ?$  and  $m\angle C = ?$ .  **$m\angle B = 42^\circ$ ,  $m\angle C = 138^\circ$**
- If  $m\angle B = 83^\circ$ , then  $m\angle A = ?$  and  $m\angle C = ?$ .
- If  $m\angle C = 127^\circ$ , then  $m\angle B = ?$  and  $m\angle A = ?$ .  **$m\angle B = 53^\circ$ ,  $m\angle A = 37^\circ$**
- If  $m\angle A = 45^\circ$ , then  $m\angle B = ?$  and  $m\angle C = ?$ .

$y+20 + 110 = 180$  Find the value(s) of the variable(s).

13.  $2x+40=110$   
 $y+20=70$   
 $y=50^\circ$   
 $x=35^\circ$

14.  $x=12^\circ$   
 $y=168^\circ$

15.  $8y+36=14y-24$   
 $8y=80$   
 $y=10$   
 $64=48+x$   
 $x=16$

16.  $75+2x-5=180$   
 $2x+70=180$   
 $2x=110$   
 $x=55^\circ$   
 $y=105^\circ$

17.  $3x+8+x=180$   
 $4x+8=180$   
 $4x=172$   
 $x=43$   
 $2y+17+43=180$   
 $2y=120$   
 $y=60$

18.  $(2x+8)^\circ$   $(3x+17)^\circ$   
 $(5y+15)^\circ$

In Exercises 19 and 20, assume that  $\angle A$  is supplementary to  $\angle B$  and complementary to  $\angle C$ . Determine  $m\angle A$ ,  $m\angle B$ , and  $m\angle C$ .

$m\angle A + m\angle B = 180^\circ$   
 $m\angle A + m\angle C = 90^\circ$

- $m\angle A = x^\circ$ ,  $m\angle B = (x+40)^\circ$ ,  $m\angle C = (x-50)^\circ$
- $m\angle A = x^\circ$ ,  $m\angle B = (2x)^\circ$ ,  $m\angle C = (x-30)^\circ$

19.  $x + x + 40 = 180$   $m\angle C = x - 50$   
 $2x + 40 = 180$   $= 70 - 50$   
 $2x = 140$   $= 20$   
 $x = 70$

$m\angle A = 70^\circ$   $m\angle B = 140^\circ$   $m\angle C = 20^\circ$

1.1 - Practice

Each figure shows a triangle with one of its angle bisectors.

- 1) Find  $m\angle 2$  if  $m\angle 2 = 8x + 1$  and  $m\angle 1 = 7x + 7$ .



$$8x + 1 = 7x + 7$$

$$x = 6$$

$$m\angle 2 = 8(6) + 1 = 49^\circ$$

Find the value of  $x$ .

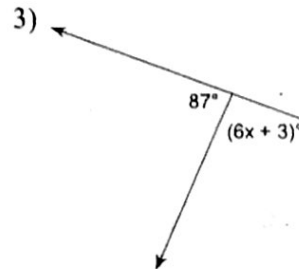
- 2) Find  $m\angle FDE$  if  $m\angle 2 = 2x - 4$  and  $m\angle FDE = 3x$ .



$$2x - 4 + 3x = 3x$$

$$5x - 4 = 3x$$

$$5(-4) - 4 = -20 - 4 = -24$$

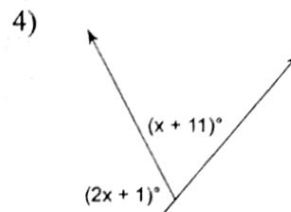


$$6x + 3 + 87 = 180$$

$$6x + 90 = 180$$

$$6x = 90$$

$$x = 15$$

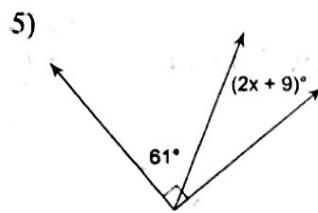


$$2x + 1 + x + 11 = 180$$

$$3x + 12 = 180$$

$$3x = 168$$

$$x = 56$$

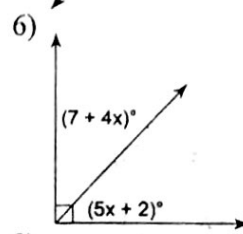


$$2x + 9 + 61 = 90$$

$$2x + 70 = 90$$

$$2x = 20$$

$$x = 10$$

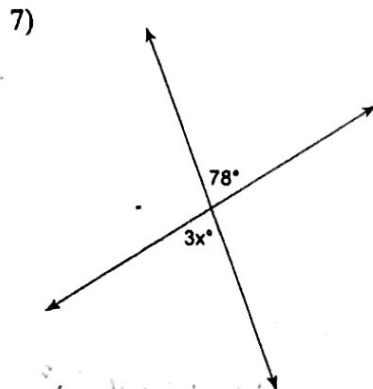


$$7 + 4x + 5x + 2 = 90$$

$$9x + 9 = 90$$

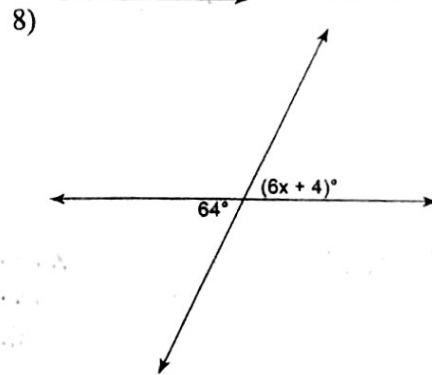
$$9x = 81$$

$$x = 9$$



$$\frac{3x}{3} = \frac{78}{3}$$

$$x = 26$$



$$6x + 4 = 64$$

$$6x = 60$$

$$x = 10$$