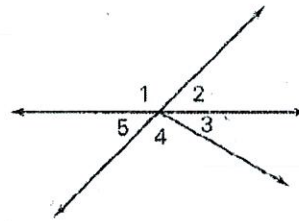


Practice B

For use with pages 44-56

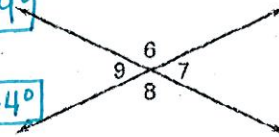
Use the figure at the right.

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



Use the figure at the right.

5. If $m\angle 6 = 51^\circ$, then $m\angle 7 =$? *$180 - 51 = 129^\circ$*
6. If $m\angle 8 = 103^\circ$, then $m\angle 6 =$? *103°*
7. If $m\angle 9 = 136^\circ$, then $m\angle 8 =$? *$180 - 136 = 44^\circ$*
8. If $m\angle 7 = 53^\circ$, then $m\angle 9 =$? *53°*



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

9. If $m\angle A = 48^\circ$, then $m\angle B =$? and $m\angle C =$? *$\angle B = 42^\circ$ $\angle C = 138^\circ$*
10. If $m\angle B = 83^\circ$, then $m\angle A =$? and $m\angle C =$? *$\angle A = 7^\circ$ $\angle C = 97^\circ$*
11. If $m\angle C = 127^\circ$, then $m\angle B =$? and $m\angle A =$? *$\angle B = 53^\circ$ $\angle A = 37^\circ$*
12. If $m\angle A = 45^\circ$, then $m\angle B =$? and $m\angle C =$? *$\angle B = 45^\circ$ $\angle C = 135^\circ$*

Find the value(s) of the variable(s).

13. *$x = 35$
 $y = 50$*

14. *$x = 12$
 $y = 168$*

15. *$x = 16$
 $y = 10$*

16. *$x = 55$
 $y = 105$*

17. *$x = 43$
 $y = 60$*

18. *$x = 31$
 $y = 11$*

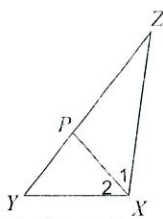
In Exercises 19 and 20, assume that $\angle A$ is supplementary to $\angle B$ and complementary to $\angle C$. Determine $m\angle A$, $m\angle B$, and $m\angle C$.

19. $m\angle A = x^\circ$, $m\angle B = (x + 40)^\circ$, $m\angle C = (x - 50)^\circ$ *$\angle A = 70$ $\angle B = 110$ $\angle C = 20$*
20. $m\angle A = x^\circ$, $m\angle B = (2x)^\circ$, $m\angle C = (x - 30)^\circ$ *$\angle A = 60$ $\angle B = 120$ $\angle C = 30$*

1.1 - Practice

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

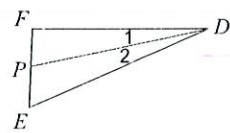
- 1) Find $m\angle 2$ if $m\angle 2 = 8x + 1$ and $m\angle 1 = 7x + 7$.



$$\begin{array}{r} 8x+1=7x+7 \\ -7x \quad -7x \\ \hline x+1=7 \\ -1 \quad -1 \\ \hline x=6 \end{array}$$

$$\begin{array}{l} \angle 2 = 8x+1 \\ \angle 2 = 8(6)+1 \\ \angle 2 = 48+1 \\ \boxed{\angle 2 = 49} \end{array}$$

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



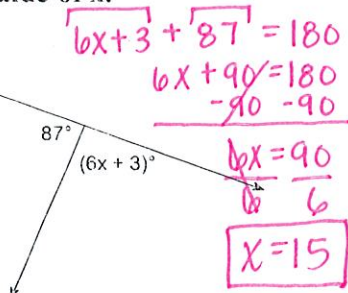
$$\begin{array}{r} 2x-4+2x-4=3x \\ 4x-8=3x \\ -4x \quad -4x \\ \hline -8=-1x \\ -1 \quad -1 \\ \hline 8=x \\ x=8 \end{array}$$

$$\begin{array}{l} \angle FDE = 3x \\ \angle FDE = 3(8) \\ \boxed{\angle FDE = 24} \end{array}$$

Find the value of x .

- 3)

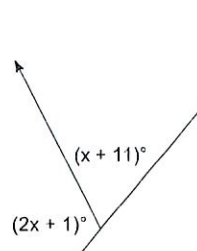
straight angle / linear pair



$$\begin{array}{r} 6x+3+87=180 \\ 6x+90=180 \\ -90 \quad -90 \\ \hline 6x=90 \\ \div 6 \quad \div 6 \\ \hline x=15 \end{array}$$

- 4)

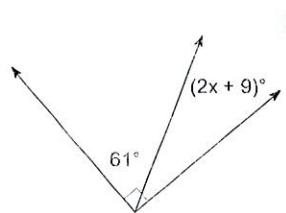
straight angle / linear pair



$$\begin{array}{r} 2x+1+x+11=180 \\ 3x+12=180 \\ -12 \quad -12 \\ \hline 3x=168 \\ \div 3 \quad \div 3 \\ \hline x=56 \end{array}$$

- 5)

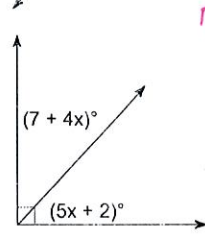
right angle



$$\begin{array}{r} 2x+9+61=90 \\ 2x+70=90 \\ -70 \quad -70 \\ \hline 2x=20 \\ \div 2 \quad \div 2 \\ \hline x=10 \end{array}$$

- 6)

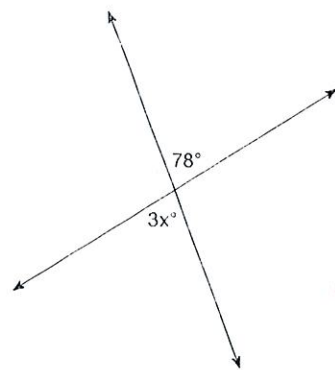
right angle



$$\begin{array}{r} 7+4x+5x+2=90 \\ 9x+9=90 \\ -9 \quad -9 \\ \hline 9x=81 \\ \div 9 \quad \div 9 \\ \hline x=9 \end{array}$$

- 7)

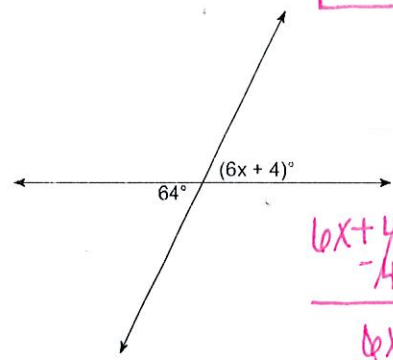
vertical angle



$$\begin{array}{r} 3x=78 \\ \div 3 \quad \div 3 \\ \hline x=26 \end{array}$$

- 8)

vertical angles



$$\begin{array}{r} 6x+4=64 \\ -4 \quad -4 \\ \hline 6x=60 \\ \div 6 \quad \div 6 \\ \hline x=10 \end{array}$$