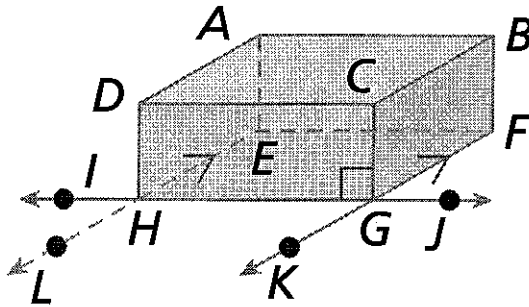


# 3-1 Lines and Angles

## Lesson Quiz

Identify each of the following.



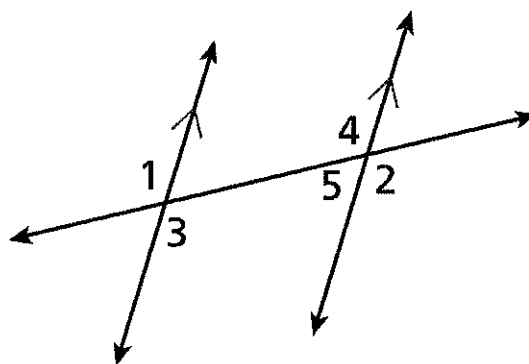
1. one pair of parallel segments  $\overline{EH} \parallel \overline{FG}$
2. one pair of skew segments  $\overline{BF}$  and  $\overline{EH}$
3. one pair of perpendicular segments  $\overline{CG} \perp \overline{GH}$
4. one pair of parallel planes  $ABC$  and  $EFG$
5. one pair of alternate interior angles  $\angle EHG$  and  $\angle HGK$
6. one pair of corresponding angles  $\angle EHG$  and  $\angle FGJ$
7. one pair of alternate exterior angles  $\angle IHE$  and  $\angle JGK$
8. one pair of same-side interior angles  $\angle EHG$  and  $\angle HGF$

## 3-2 Angles Formed by Parallel Lines and Transversals

### Lesson Quiz

State the theorem or postulate that is related to the measures of the angles in each pair. Then find the unknown angle measures.

④ Same Side Int  $\angle$ 's.  
 $45x + 30 + 25x + 10 = 180$   
 $70x + 40 = 180$   
 $\begin{array}{r} 70x + 40 = 180 \\ -40 \quad -40 \\ \hline 70x = 140 \\ x = 2 \end{array}$



① Alt Ext  $\angle$ 's.  
 $60x = 120^\circ$   
 $x = 2$   
 $m\angle 2 = 60x = 60(2) = 120^\circ$

1.  $m\angle 1 = 120^\circ$ ,  $m\angle 2 = (60x)^\circ = 60(2) = 120^\circ$

2.  $m\angle 2 = (75x - 30)^\circ$ ,  $m\angle 3 = (30x + 60)^\circ$   
 $= 75(2) - 30 = 150 - 30 = 120^\circ$   
 $= 30(2) + 60 = 60 + 60 = 120^\circ$

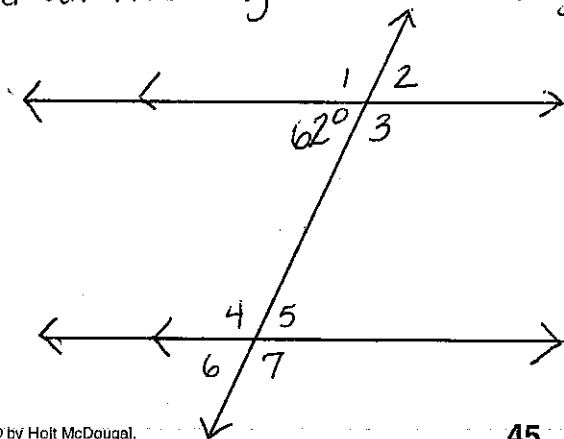
3.  $m\angle 3 = (50x + 20)^\circ$ ,  $m\angle 4 = (100x - 80)^\circ$   
 $= 50(2) + 20 = 100 + 20 = 120^\circ$   
 $= 100(2) - 80 = 200 - 80 = 120^\circ$

4.  $m\angle 3 = (45x + 30)^\circ$ ,  $m\angle 5 = (25x + 10)^\circ$   
 $= 45(2) + 30 = 90 + 30 = 120^\circ$   
 $= 25(2) + 10 = 50 + 10 = 60^\circ$

Find all the angles in the diagram.

② Corresponding  $\angle$ 's.  
 $75x - 30 = 30x + 60$   
 $\begin{array}{r} 75x - 30 = 30x + 60 \\ -30x \quad -30 \\ \hline 45x = 90 \\ x = 2 \end{array}$   
 $m\angle 2 = 75(2) - 30 = 150 - 30 = 120^\circ$   
 $m\angle 3 = 30(2) + 60 = 60 + 60 = 120^\circ$

③ Alt Int  $\angle$ 's.  
 $50x + 20 = 100x - 80$   
 $\begin{array}{r} 50x + 20 = 100x - 80 \\ -50x \quad +80 \\ \hline 100 = 50x \\ 2 = x \end{array}$



$m\angle 1 = 118^\circ$

$m\angle 2 = 62^\circ$

$m\angle 3 = 118^\circ$

$m\angle 4 = 118^\circ$

$m\angle 5 = 62^\circ$

$m\angle 6 = 62^\circ$

$m\angle 7 = 118^\circ$