

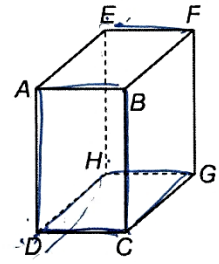
# 3-1

## Skills Practice

### Parallel Lines and Transversals

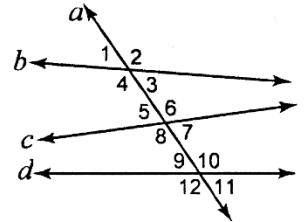
For Exercises 1–4, refer to the figure at the right to identify each of the following.

- all planes that are parallel to plane  $DEH$   $CBEF$   $FBCG$
- all segments that are parallel to  $\overline{AB}$   $\overline{DC}$   $\overline{HG}$   $\overline{EF}$
- all segments that intersect  $\overline{GH}$   $\overline{GC}$ ,  $\overline{GF}$ ,  $\overline{HE}$ ,  $\overline{HD}$
- all segments that are skew to  $\overline{CD}$   $\overline{AE}$ ,  $\overline{BF}$ ,  $\overline{FG}$ ,  $\overline{EH}$



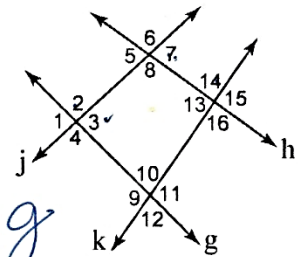
Classify the relationship between each pair of angles as *alternate interior*, *alternate exterior*, *corresponding*, or *consecutive interior* angles.

- |  |  |
|--|--|
| 5. $\angle 4$ and $\angle 5$ <i>consec int.</i>    | 6. $\angle 5$ and $\angle 11$<br><i>alt ext.</i>     |
| 7. $\angle 4$ and $\angle 6$<br><i>alt. int.</i>   | 8. $\angle 7$ and $\angle 9$<br><i>alt. int.</i>     |
| 9. $\angle 2$ and $\angle 8$<br><i>alt. ext.</i>   | 10. $\angle 3$ and $\angle 6$<br><i>consec. int.</i> |
| 11. $\angle 1$ and $\angle 9$<br><i>corr.</i>      | 12. $\angle 3$ and $\angle 9$<br><i>alt. int.</i>    |
| 13. $\angle 6$ and $\angle 12$<br><i>alt. ext.</i> | 14. $\angle 7$ and $\angle 11$<br><i>corr.</i>       |



Identify the transversal connecting each pair of angles. Then classify the relationship between each pair of angles.

- |   |  |
|---|--|
| 15. $\angle 4$ and $\angle 10$ <i>alt. int; g</i> | 16. $\angle 2$ and $\angle 12$<br><i>alt. ext; g</i>     |
| 17. $\angle 7$ and $\angle 3$ <i>corr; j</i>      | 18. $\angle 13$ and $\angle 10$<br><i>consec. int; k</i> |
| 19. $\angle 8$ and $\angle 14$ <i>alt. int; h</i> | 20. $\angle 6$ and $\angle 14$<br><i>corr; h</i>         |

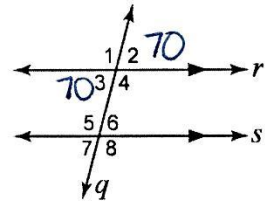


# 3-2 Skills Practice

## Angles and Parallel Lines

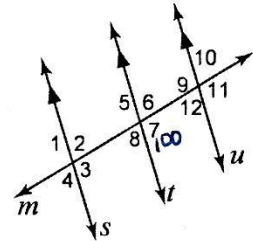
In the figure,  $m\angle 2 = 70$ . Find the measure of each angle.

- |                   |                   |
|-------------------|-------------------|
| 1. $\angle 3$ 70  | 2. $\angle 5$ 110 |
| 3. $\angle 8$ 110 | 4. $\angle 1$ 110 |
| 5. $\angle 4$ 110 | 6. $\angle 6$ 70  |



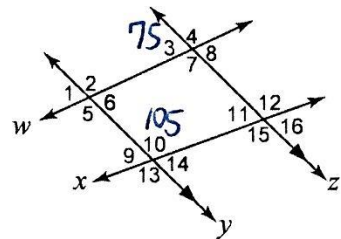
In the figure,  $m\angle 7 = 100$ . Find the measure of each angle.

- |                    |                     |
|--------------------|---------------------|
| 7. $\angle 9$ 100  | 8. $\angle 6$ 80    |
| 9. $\angle 8$ 80   | 10. $\angle 2$ 80   |
| 11. $\angle 5$ 100 | 12. $\angle 11$ 100 |



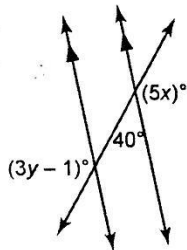
In the figure,  $m\angle 3 = 75$  and  $m\angle 10 = 105$ . Find the measure of each angle.

- |                    |                     |
|--------------------|---------------------|
| 13. $\angle 2$ 105 | 14. $\angle 5$ 105  |
| 15. $\angle 7$ 105 | 16. $\angle 15$ 105 |
| 17. $\angle 14$ 75 | 18. $\angle 9$ 75   |



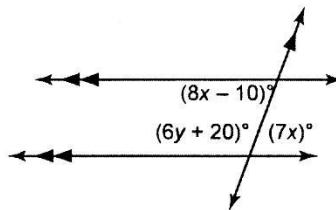
Find the value of the variable(s) in each figure. Explain your reasoning.

19.



$x = 28$   
 $y = 47$

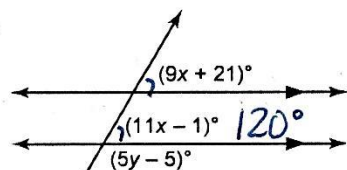
20.



$x = 10$   
 $y = 15$

$6y + 20 = 110$   
 $6y = 90$

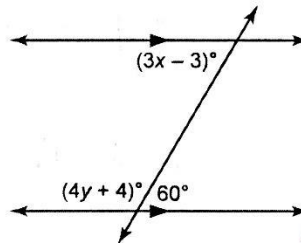
21.



$9x + 21 = 11x - 1$   
 $22 = 2x$   
 $11 = x$

$5y - 5 = 60$   
 $5y = 65$   
 $y = 13$

22.



$3x - 3 = 60$   
 $3x = 63$   
 $x = 21$

$4y + 4 = 120$   
 $4y = 116$   
 $y = 29$