LESSON 8-3

Practice A

Angle Relationships

1. Draw a pair of parallel lines.



2. Draw a pair of perpendicular lines.



Tell whether each statement is true or false.

3. $\overline{AC}$ and $\overline{AB}$ appear parallel. false

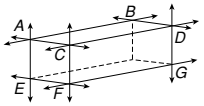
4. $\overline{AC}$ and $\overline{EF}$ appear parallel. true

5. $\overline{AB}$ and $\overline{CD}$ appear perpendicular. false

6. $\overline{CF}$ and $\overline{FG}$ appear perpendicular. true

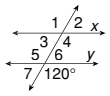
7. $\overline{EF}$ and $\overline{DG}$ appear to be skew. true

8. $\overline{CD}$ and $\overline{DG}$ appear perpendicular. true



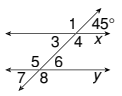
Line *x* is parallel to line *y*. Find the measure of each angle.

9. ∠1 and ∠6



120° and 60°

10. ∠3 and ∠7



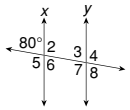
45° and 45°

11. ∠1 and ∠4



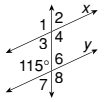
90° and 90°

12. ∠6 and ∠4



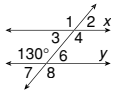
80° and 100°

13. ∠6 and ∠7



65° and 65°

14. ∠1 and ∠3



130° and 50°

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LESSON 8-3

Practice B

Angle Relationships

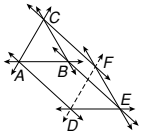
Tell whether the lines appear parallel, perpendicular, or skew.

1. $\overline{AB}$ and $\overline{DE}$ parallel

2. $\overline{EF}$ and $\overline{CF}$ perpendicular

3. $\overline{AB}$ and $\overline{AD}$ perpendicular

4. $\overline{BC}$ and $\overline{DE}$ skew



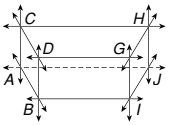
Tell whether the lines appear parallel, perpendicular, or skew.

5. $\overline{BD}$ and $\overline{DG}$ perpendicular

6. $\overline{AB}$ and $\overline{BD}$ perpendicular

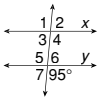
7. $\overline{DG}$ and $\overline{IJ}$ skew

8. $\overline{AB}$ and $\overline{CD}$ parallel



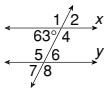
Line *x* ∥ line *y*. Find the measure of each.

9. ∠1 and ∠6



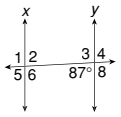
95° and 85°

10. ∠4 and ∠8



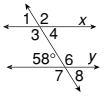
117° and 117°

11. ∠4 and ∠6



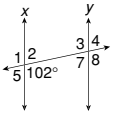
87° and 93°

12. ∠2 and ∠4



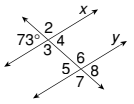
122° and 58°

13. ∠5 and ∠7



78° and 78°

14. ∠7 and ∠8



107° and 73°

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LESSON 8-3

Practice C

Angle Relationships

Tell whether the lines appear parallel, perpendicular or skew.

1. $\overline{DF}$ and $\overline{AC}$ parallel

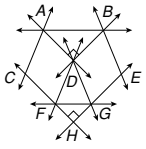
2. $\overline{AD}$ and $\overline{BD}$ perpendicular

3. $\overline{AD}$ and $\overline{GE}$ skew

4. $\overline{DG}$ and $\overline{BE}$ parallel

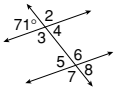
5. $\overline{AB}$ and $\overline{GH}$ skew

6. $\overline{FH}$ and $\overline{GH}$ perpendicular



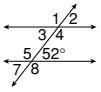
Assume that lines that look parallel are parallel. Find the measure of each angle.

7. ∠4 and ∠6



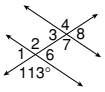
71° and 109°

8. ∠1 and ∠7



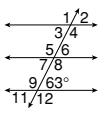
128° and 52°

9. ∠3 and ∠8



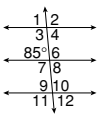
67° and 67°

10. ∠2, ∠5, and ∠12



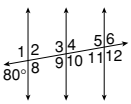
63°, 117°, and 117°

11. ∠1, ∠8, and ∠10



85°, 85°, and 95°

12. ∠3, ∠6, and ∠11



100°, 80°, and 80°

13. A pair of supplementary angles is congruent. What is the measure of each angle?

90°

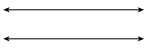
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LESSON 8-3

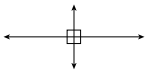
Reteach

Angle Relationships

Lines in the same plane that never meet are called **parallel** lines.



Two lines that intersect to form right angles are called **perpendicular** lines.



Lines that do not intersect and are not parallel are called **skew** lines. Skew lines are in different planes.



Use the figure to complete the statements.



1. $\overline{AB}$ and $\overline{DC}$ are parallel lines, since they never meet and lie in the same plane.

2. $\overline{DH}$ and $\overline{EH}$ are perpendicular lines, since they intersect to form right angles.

3. $\overline{AB}$ and $\overline{EH}$ are skew lines, since they do not intersect and are not parallel.

A **transversal** is a line that intersects two or more lines.

- When two parallel lines are intersected by a transversal, 8 angles are formed.
- The 4 acute angles are congruent, and the 4 obtuse angles are congruent.
- The sum of an acute angle and an obtuse angle is 180°.

Use the figure to answer the questions.

4. Which angles are acute angles?

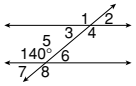
∠2, ∠3, ∠6, ∠7

5. Which angles are obtuse angles?

∠1, ∠4, ∠5, ∠8

6. Find the measures of ∠1 and ∠2.

m∠1 = 140°; m∠2 = 40°



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