Angles in Parallel Lines

Name: _____ Date: _____

Key Facts:

- **Corresponding angles** are equal (F-shape pattern)
- **Alternate angles** are equal (Z-shape pattern)
- **Co-interior angles** add up to 180° (C-shape pattern)

Part A: Identify the Angle Relationship

State whether each pair of angles are *corresponding*, *alternate*, or *co-interior*.

1. Angles a and e: _____
2. Angles c and f: _____
3. Angles d and f: _____
4. Angles b and h: _____
5. Angles c and e: _____

(Refer to standard parallel lines diagram with transversal: angles a,b,c,d on top line; e,f,g,h on bottom line)

Part B: Calculate Missing Angles

Two parallel lines are cut by a transversal. Find the value of each missing angle.

6. If angle p = 65°, find the corresponding angle q.

   q = _____

7. If angle r = 112°, find the alternate angle s.

   s = _____

8. If angle m = 73°, find the co-interior angle n.

   n = _____

9. If angle k = 48°, find the corresponding angle, then use it to find the co-interior angle to k.

   Co-interior angle = _____

10. If angle x = 125°, find the alternate angle y, then find an angle corresponding to y.

    Alternate angle y = _____

    Corresponding to y = _____

Part C: Problem Solving

11. Two parallel lines are cut by a transversal. One angle measures $3x + 15°$ and its corresponding angle measures $5x - 25°$. Find the value of x.

x = _____

12. Two co-interior angles are in the ratio 2:3. Find the size of each angle.

Smaller angle = _____ Larger angle = _____