

CO-C9a

Practice Assessment

1. Write the inverse and the contrapositive of the following statement:

*If a polygon is a square, then it has 4 right angles.*

Inverse:

Contrapositive:

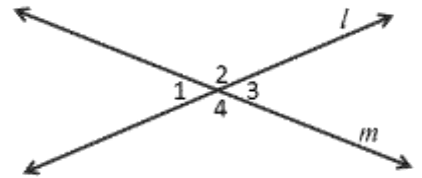
2. Write the converse of the following statement. Then combine the statement and converse into a single biconditional statement.

*If a triangle has 3 congruent sides, then it is an equilateral triangle.*

Converse:

Biconditional:

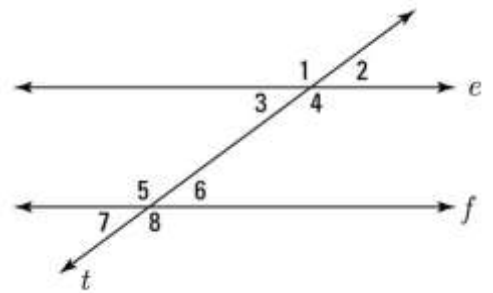
3. Given lines  $l$  and  $m$  which intersect to create four angles, write a paragraph to prove that  $\angle 2 \cong \angle 4$ .



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Use the figure for 4 and 5.

4. For this problem only, it is given that  $e \parallel f$ . Write a paragraph that proves that  $\angle 2 \cong \angle 7$ .



5. For this problem only, it is given that  $\angle 4 + \angle 6 = 180^\circ$ . Write a paragraph that proves that  $e \parallel f$ .

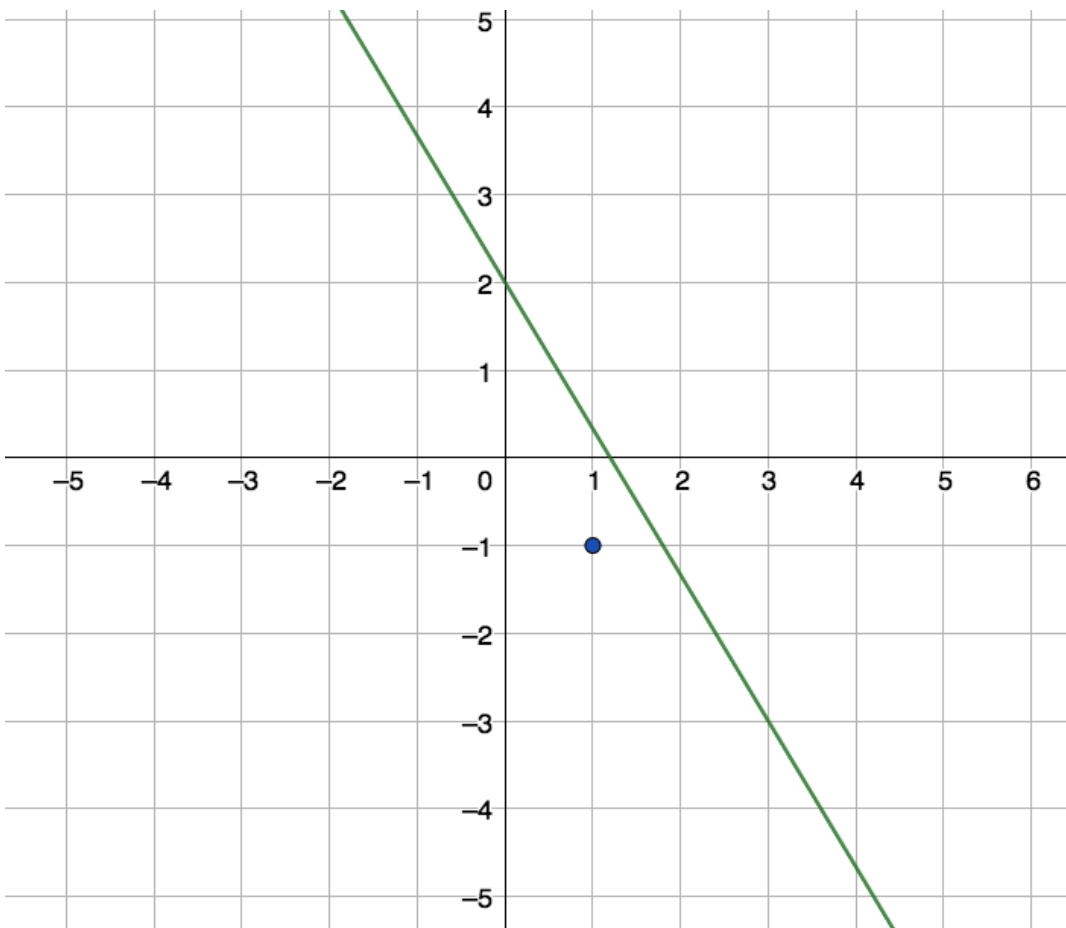
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6. Are the lines whose equations are given below parallel, perpendicular, or neither? Justify your answer using numerical evidence.

$$\begin{cases} 2x - 6y = 18 \\ 3x + y = 6 \end{cases}$$

7. Write the point-slope equation of a line that passes through  $(-3, 4)$  and is parallel to  $2x + 6y = 13$ .

8. Graph a line that is perpendicular to the given line, passing through the given point. Then complete the table.



Slope of given line	
Slope of perp. line	