Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_  
Geometry // Mr. Burke

Chapter 6: Quadrilaterals

Extra Practice

1. In a parallelogram, the diagonals \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

(a) bisect each other (b) are perpendicular

(c) are congruent (d) none of these

2. In a rhombus, consecutive sides \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

(a) are parallel (b) are perpendicular

(c) are congruent (d) none of these

3. In a rectangle, the diagonals \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

(a) are parallel (b) are perpendicular

(c) are congruent (d) none of these

4. In a parallelogram, the opposite angles \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

(a) are supplementary (b) are complementary

(c) are congruent (d) none of these

5. In a trapezoid, the base angles \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

(a) are supplementary (b) are complementary

(c) are congruent (d) none of these

6. In parallelogram *ABCD*,  and . Find .

7. In rectangle *MATH*, *MT* = 3*x* + 7, *AH* = 6*x* – 5, and *MA* = 2*x* – 1. Find the length of *TH*.

8. In isosceles trapezoid TRAP, . If and , find .

9. In rhombus *QUAD*, diagonals  and  intersect at *E*. If , find .

10. Solve for the variables in the parallelogram below:

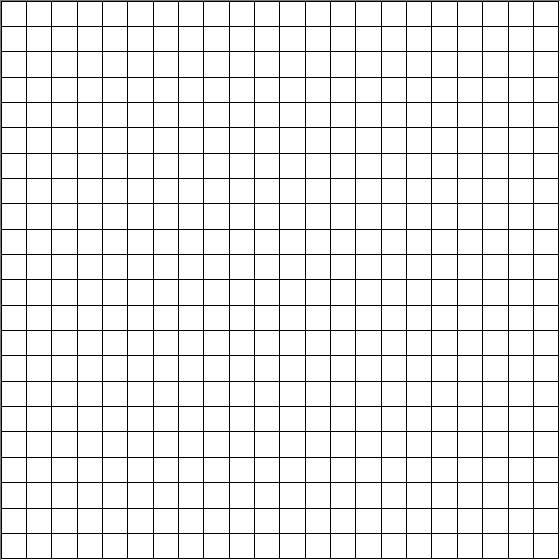
3*y*

2*y +* 5

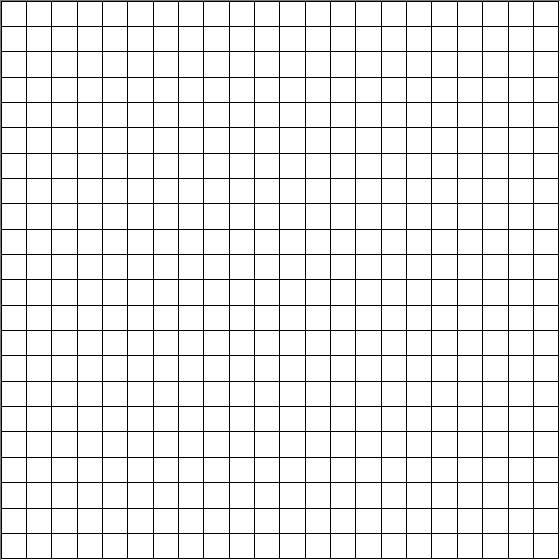
2*x*

*x* + 8

11. The vertices of quadrilateral *ABCD* are *A*(-1, 1), *B*(4, 5), *C*(9, 1), and *D*(4, -3). Using coordinate geometry, prove that *ABCD* is a rhombus and *not* a square.



12. The vertices of quadrilateral *BIRD* are *B*(-1, -3), *I*(8, 0), *R*(3, 5), and *D*(0, 4). Use coordinate geometry to prove that quadrilateral *BIRD* is an isosceles trapezoid.



13. **Given**: 

*F*

*E*

*C*

*B*

*A*

*D*

**Prove: **

|  |  |
| --- | --- |
| Statements | Reasons |
|  |  |

*E*

14. **Given: **

*C*

*D*

**Prove:** *ABCD* is an isosceles trapezoid

*B*

*A*

|  |  |
| --- | --- |
| Statements | Reasons |
|  |  |

15. **Given:** *AECB* is a rhombus, 

*F*

*E*

*D*

*C*

*B*

*A*

**Prove: **

|  |  |
| --- | --- |
| Statements | Reasons |
|  |  |