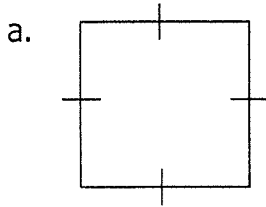


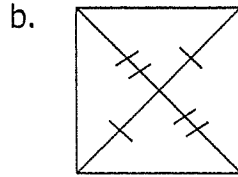
Geometry (H)  
Section 5.4 – Special Parallelograms

Name: KEY

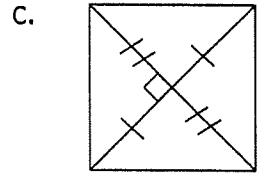
1. Identify the quadrilateral, be as specific as you can. Justify your answer.



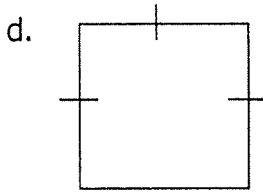
*rhombus*



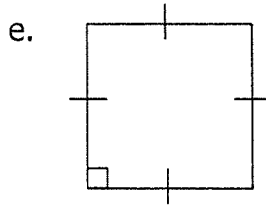
*parallelogram*



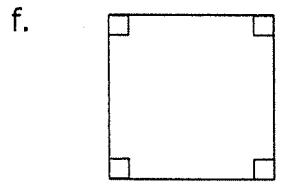
*rhombus*



*quadrilateral*



*square*



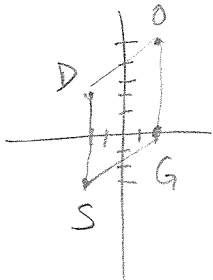
*rectangle*

Geometry (H)

Section 5.4 – Special Parallelograms

Directions: Graph each quadrilateral then identify whether it is a: rectangle, rhombus, square, or parallelogram. You must use slope and/or distance to verify.

1. D(-2,2) O(2,5) G(2,0) S(-2,-3)



$$d_{DO} = \sqrt{(-2-2)^2 + (2-5)^2} = \sqrt{16+9} = 5$$

$$m_{DS} = \frac{2-(-3)}{-2-(-2)} = \frac{5}{0}$$

$$d_{SG} = \sqrt{(2-2)^2 + (0-(-3))^2} = \sqrt{0+9} = 3$$

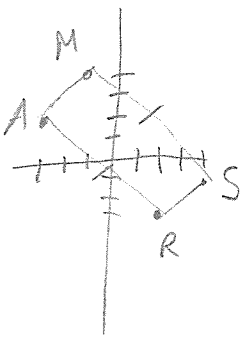
$$m_{SG} = \frac{0-(-3)}{2-(-2)} = \frac{3}{4}$$

$$d_{DS} = \sqrt{(-2-(-2))^2 + (2-(-3))^2} = \sqrt{0+25} = 5$$

4  $\cong$  sides  
Sides not  $\perp$  }  $\rightarrow$  rhombus

$$d_{OG} = \sqrt{(2-2)^2 + (5-0)^2} = \sqrt{0+25} = 5$$

2. M(-1,4) A(-3,2) R(2,-3) S(4,-1)



$$d_{MS} = \sqrt{(-1-4)^2 + (4-(-1))^2} = \sqrt{25+25} = \sqrt{2 \cdot 25} = 5\sqrt{2}$$

$$m_{MA} = \frac{4-2}{-1-(-3)} = \frac{2}{2} = 1$$

$$d_{AR} = \sqrt{(-3-2)^2 + (2-(-3))^2} = \sqrt{25+25} = 5\sqrt{2}$$

$$m_{SR} = \frac{-3-(-1)}{2-4} = \frac{-2}{-2} = 1$$

$$d_{MA} = \sqrt{(-1-(-3))^2 + (4-2)^2} = \sqrt{4+4} = \sqrt{8} = 2\sqrt{2}$$

$$m_{MS} = \frac{4-(-1)}{-1-4} = \frac{5}{-5} = -1$$

$$d_{SR} = \sqrt{(2-4)^2 + (-3-(-1))^2} = \sqrt{4+4} = 2\sqrt{2}$$

$$m_{AR} = \frac{2-(-3)}{-3-2} = \frac{5}{-5} = -1$$

Opp sides parallel  
Opp sides equal  
 $\overline{MA} \perp \overline{AR}$  4 right  
 $\overline{SR} \perp \overline{MS}$  4  $\sphericalangle$  } rectangle