

# Quadrilateral

Q(-5, 3) U(0, 4) A(4, 0) D(3, -5)

- ① Find the slopes of the sides.
- ② What kind of quadrilateral is this and how do you know?
- ③ How would you use distance formula to further classify? (answer in words)

Answer A/S/or N

- 4) A square is      a rhombus.
- 5) A parallelogram is      a rhombus.
- 6) A parallelogram is      a kite.
- 7) A rectangle is      a parallelogram.

1)  $QU = \frac{4-3}{0-5} = \frac{1}{-5}$   
 $UA = \frac{0-4}{4-0} = \frac{-4}{4} = -1$   
 $AD = \frac{0-5}{4-3} = \frac{-5}{1} = -5$   
 $QD = \frac{-5-3}{3-5} = \frac{-8}{-2} = 4$

2) slope of UA = slope of QD  
 so  $UA \parallel QD$  therefore  
 QM is a ~~trapezoid~~ trapezoid

3) IF  $QU \cong AD$ , then it is an  
 isosceles trapezoid ~~or~~  $QA \cong UD$ .  
 (distance formula)

4) A 5) S 6) N 7) A

$\frac{y_2 - y_1}{x_2 - x_1}$  slope  
 $\frac{y_1 + y_2}{2}$  vert  
 $\frac{x_1 + x_2}{2}$  horiz  
 (midpoint (average pt))  
 $\sqrt{(x-x)^2 + (y-y)^2}$  distance  
 $\sqrt{a^2 + b^2}$