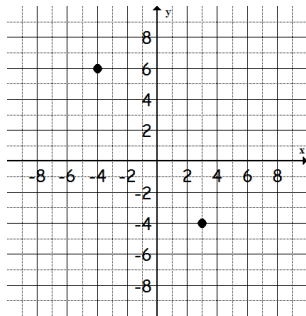


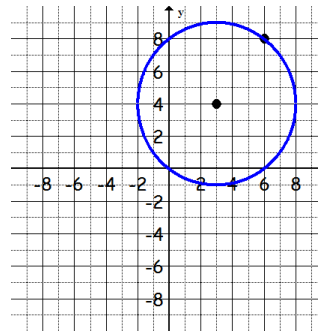
Distance formula and perimeter

**Check for understanding:** Find the distance between the given points:

a.



b.



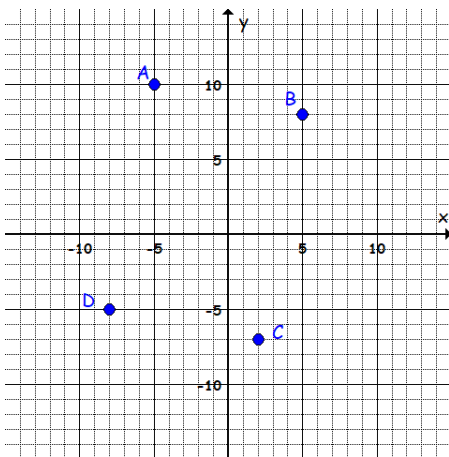
c.  $(-2, 2)$  and  $(0, -1)$

d.  $(-107, 2)$  and  $(-137, 42)$

**Practice: C-Level:**

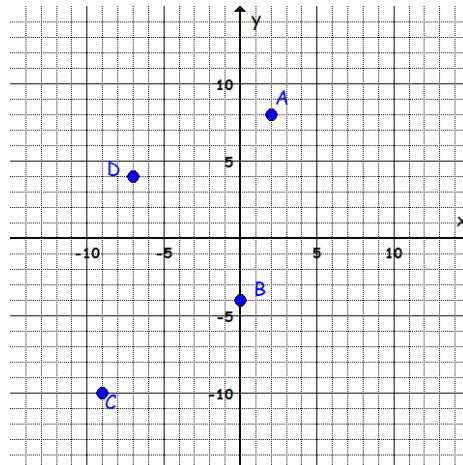
1. Using the distance formula, determine what type of quadrilateral the points create. SHOW YOUR WORK AND EXPLAIN YOUR REASONING.

a.



AB =
BC =
CD =
DA =
AC =
BD =

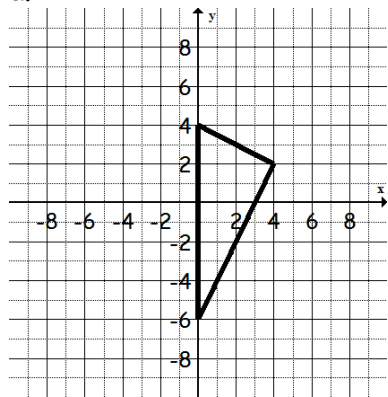
b.



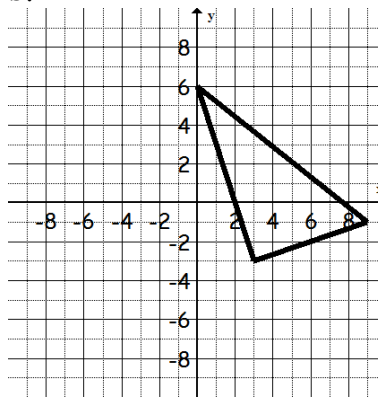
AB =
BC =
CD =
DA =
AC =
BD =

2. Find the perimeter and area of the given right triangles:

a.



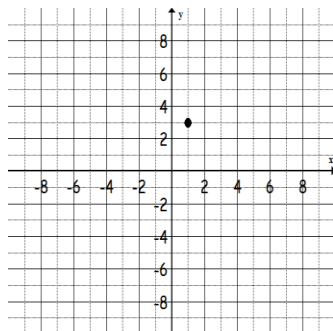
b.



### B-Level

3. Meteorologist Paul Windward and geologist Rhaina Stone are rushing to a paleontology conference in Pecos Gulch. Paul lifts off in his balloon at noon from Lost Wages, heading east for Pecos Gulch Conference Center. With the wind blowing west to east, he averages a land speed of 30 km/hr. This will allow him to arrive in 4 hours, just as the conference begins. Meanwhile, Rhaina is 160 km north of Lost Wages. At the moment of Paul's lift off, Rhaina hops into an off-roading vehicle and heads directly for the conference center. At what average speed must she travel to arrive at the same time Paul does?

4. List four points that are  $3\sqrt{2}$  units from the point (1,3)



### Looking ahead:

Find the slope of each of the line segments and determine if the lines are parallel or perpendicular.

