## Unit 6 Lesson 14: Coordinate Proof

### 1 Which One Doesn’t Belong: Coordinate Quadrilaterals (Warm up)

#### Student Task Statement

Which one doesn’t belong?

A



B



C



D



### 2 Name This Quadrilateral

#### Student Task Statement

A quadrilateral has vertices $\left(0,0\right),\left(4,3\right),\left(13,-9\right),$ and $\left(9,-12\right)$.

1. What type of quadrilateral is it? Explain or show your reasoning.
2. Find the perimeter of this quadrilateral.
3. Find the area of this quadrilateral.

### 3 Circular Logic

#### Student Task Statement

The image shows a circle with several points plotted on the circle.



1. What kind of segment is $BC$ in reference to the circle?
2. Choose one of the plotted points on the circle and call it $D$. Each student in the group should choose a different point. Draw segments $BD$ and $DC$. What does the measure of angle $BDC$ appear to be?
3. Calculate the slopes of segments $BD$ and $DC$. What do your results tell you?
4. Compare your results to those of others in your group. What did they find?
5. Based on your group’s results, write a conjecture that captures what you are seeing.

#### Images for Activity Synthesis

A



B



C



D





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