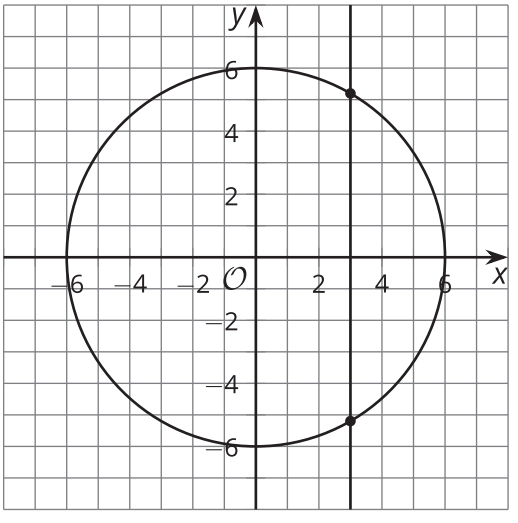
Unit 6 Lesson 13: Intersection Points

1 Which One Doesn't Belong: Lines and Curves (Warm up)

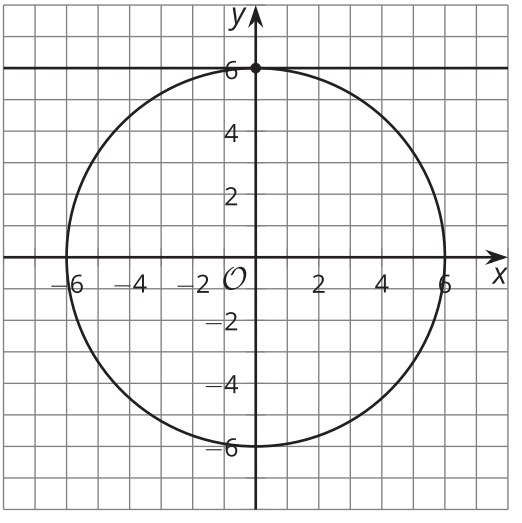
Student Task Statement

Which one doesn't belong?

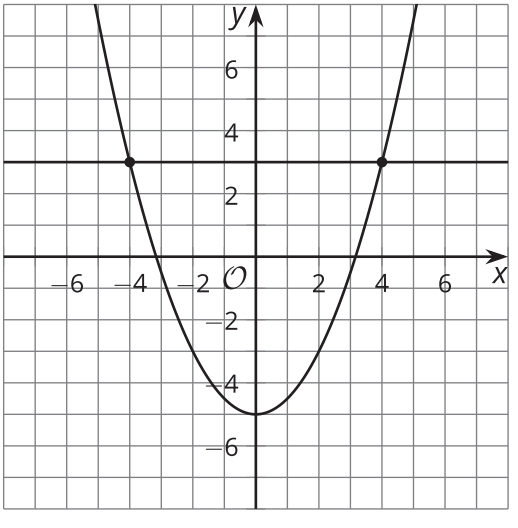
A



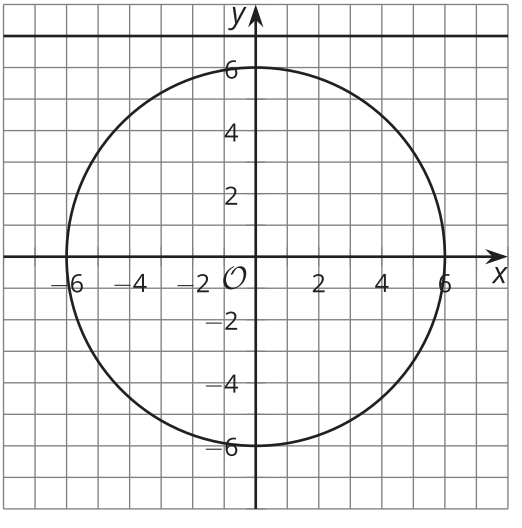
B



C

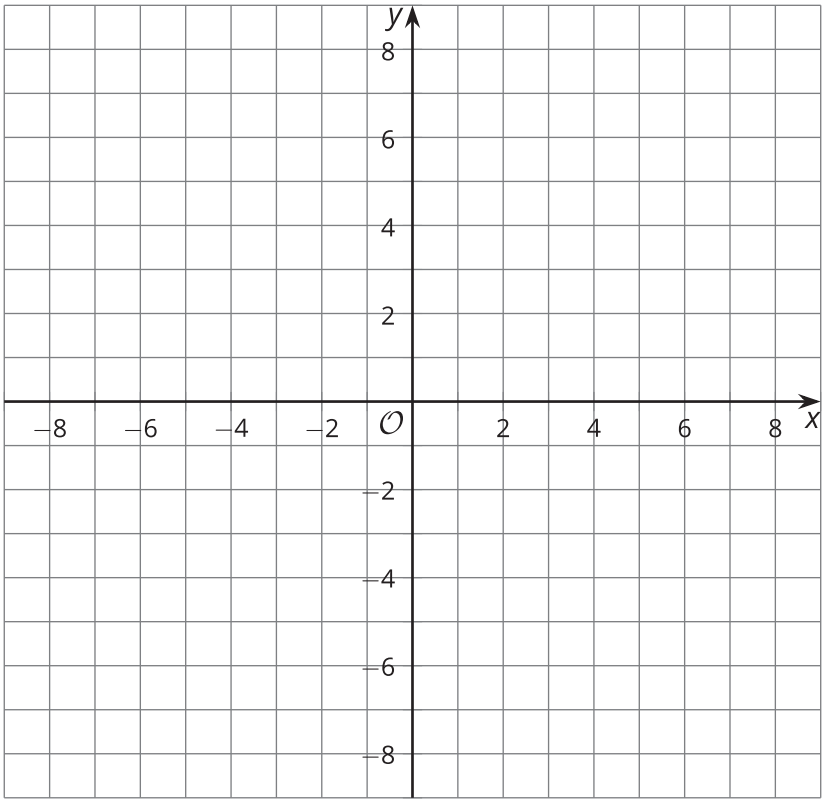


D



2 Circles and Lines

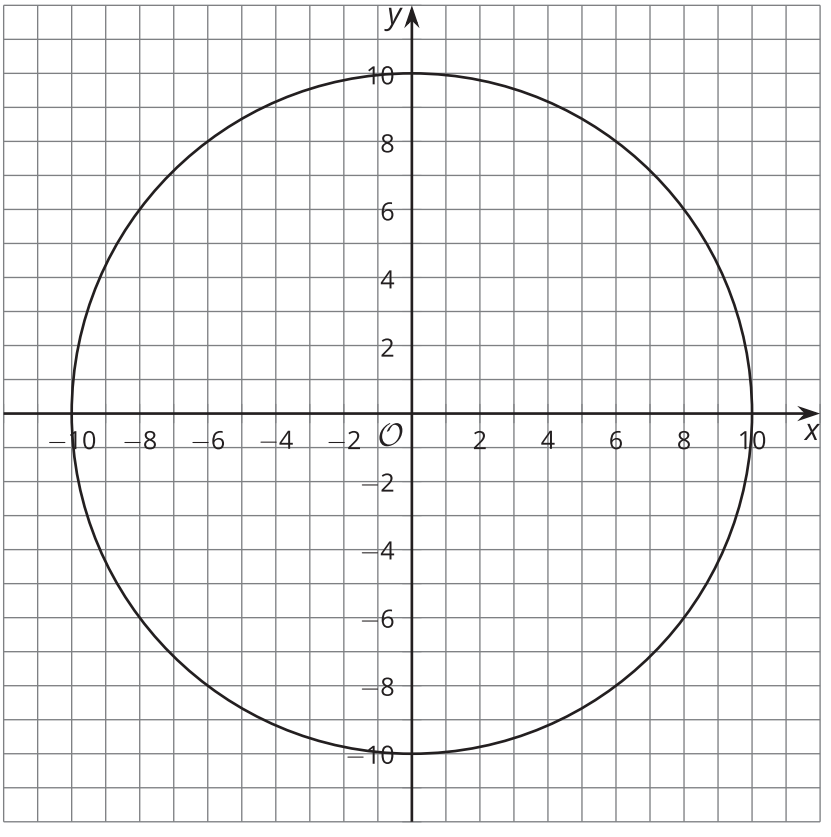
Student Task Statement



1. The equation $(x-3)^2+(y-2)^2=25$ represents a circle. Graph this circle on the coordinate grid.
2. Graph the line $y=6$. At what points does this line appear to intersect the circle?
3. How can you verify that the 2 figures really intersect at these points? Carry out whatever procedure you decide.
4. Graph the line $y=x-2$. At what points does this line appear to intersect the circle? Verify that the 2 figures really do intersect at these points.

3 Creating Lines

Student Task Statement



1. Write an equation representing the circle in the graph.

2. Graph and write equations for each line described:
   a. any line parallel to the x-axis that intersects the circle at 2 points

   b. any line perpendicular to the x-axis that doesn't intersect the circle

   c. the line perpendicular to $y = -\frac{1}{3}x + 5$ that intersects the circle at $(6, 8)$

3. For the last line you graphed, find the second point where the line intersects the circle. Explain or show your reasoning.

Images for Activity Synthesis