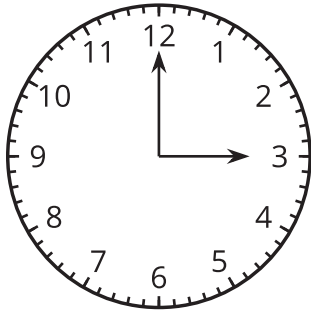# Unit 6 Lesson 1: Moving in Circles

1 Which One Doesn't Belong: Reading Clocks (Warm up)
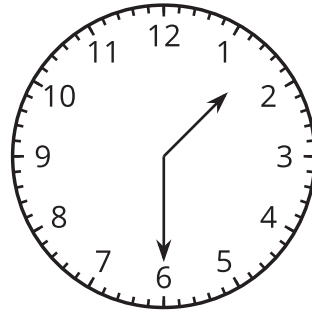
Student Task Statement

Which one doesn't belong?
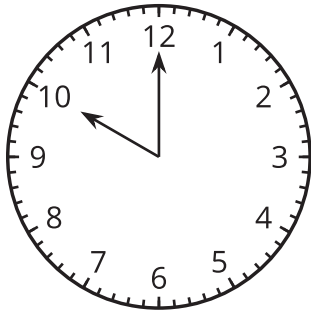
A
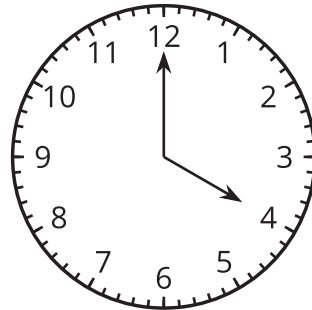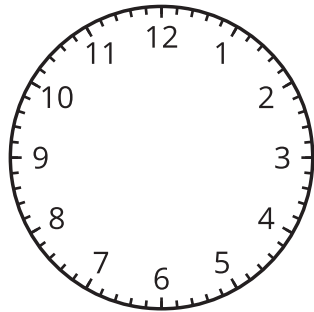

B

C

D

2 Around and Around

Images for Launch

Student Task Statement

A ladybug lands on the end of a clock's second hand when the hand is pointing straight up. The second hand is 1 foot long and when it rotates and points directly to the right, the ladybug is 10 feet above the ground.

1. How far above the ground is the ladybug after 0, 30, 45, and 60 seconds have passed? Pause here for a class discussion.

2. Estimate how far above the ground the ladybug is after 10, 20, and 40 seconds. Be prepared to explain your reasoning.

3. If the ladybug stays on the second hand, describe how its distance from the ground will change over the next minute. What about the minute after that?

4. At exactly 3:15, the ladybug flies from the second hand to the minute hand, which is 9 inches long.
   a. How far off the ground is the ladybug now?

   b. At what time will the ladybug be at that height again if it stays on the minute hand? Be prepared to explain your reasoning.
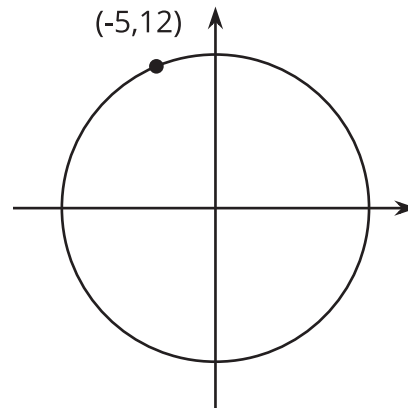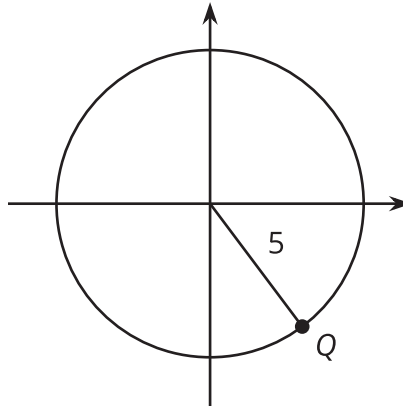
3 Where is the Point?
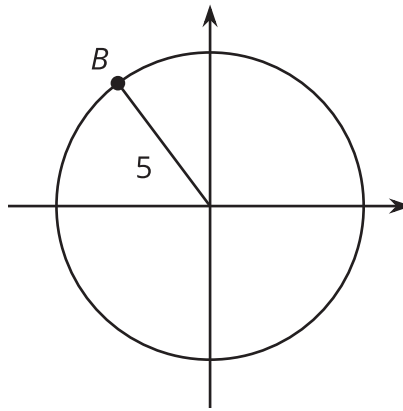
Images for Launch
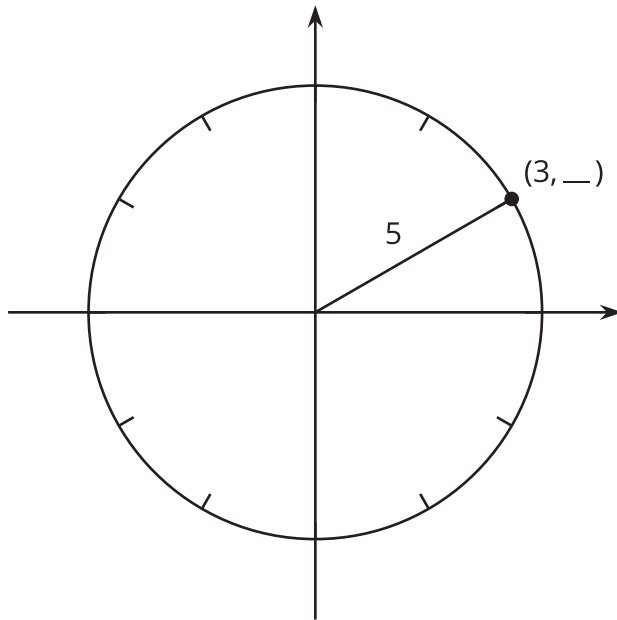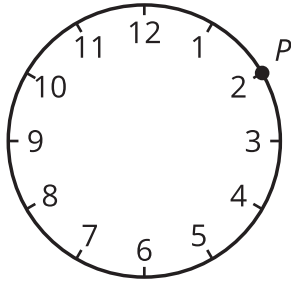
Student Task Statement

1. What is the radius of the circle?

2. If Q has a y-coordinate of -4, what is the x-coordinate?

5

Q

3. If B has a y-coordinate of 4, what is the x-coordinate?

B

5

4. A circle centered at $(0,0)$ has a radius of 10. Point S on the circle has an x-coordinate of 6. What is the y-coordinate of point S? Explain or show your reasoning.