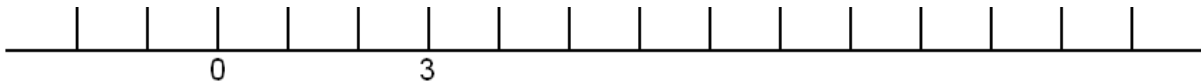


Traveling Washer in One Dimension

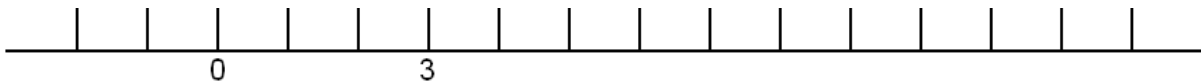
This activity is designated to point out the difference among the position of an object, the distance traveled by an object, and the displacement of an object.

1. Place a washer on the number line below with the center of the washer at the position marked zero. Draw a circle around the inside of the washer. Mark the center of this circle with the letter “**I**” for the “**I**nitial” position of the washer. Move the center of the washer 5.0 centimeters to the right.....STOP.....Label this circle “**F**” for the “**F**inal” position of the washer.



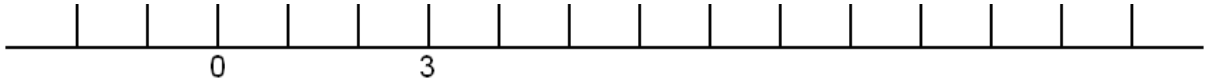
- A) What was the initial position of the washer? _____
- B) What is the final position of the washer? _____
- C) What is the distance traveled by the washer? _____
- D) What is the displacement of the washer? _____
- E) Which of the underlined quantities (e.g. final position, distance traveled, and displacement) are numerically equal? _____

2. Place a washer on the number line below with the center of the washer at the position marked zero. Draw a circle around the inside of the washer. Mark the center of this circle with the letter “**I**” for the “**I**nitial” position of the washer.



- Move the center of the washer in the manner listed below:
 Move 7.0 centimeters to the right, and then
 Move 2.0 centimeters to the left, and then
 STOP.....Label this circle “**F**” for the “**F**inal” position of the washer.
- A) What was the initial position of the washer? _____
- B) What is the final position of the washer? _____
- C) What is the distance traveled by the washer? _____
- D) What is the displacement of the washer? _____
- E) Which of the underlined quantities are numerically equal? _____

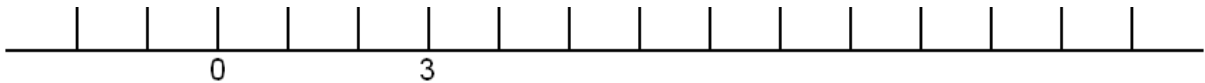
3. Place a washer on the number line below with the center of the washer at the position marked three. Draw a circle around the inside of the washer. Mark the center of this circle with the letter “I” for the “Initial” position of the washer.



Move the center of the washer 5.0 centimeters to the right.....STOP.....
Label this circle “F” for the “Final” position of the washer.

- A) What was the initial position of the washer? _____
- B) What is the final position of the washer? _____
- C) What is the distance traveled by the washer? _____
- D) What is the displacement of the washer? _____
- E) Which of the underlined quantities are numerically equal? _____

4. Place a washer on the number line below with the center of the washer at the position marked three. Draw a circle around the inside of the washer. Mark the center of this circle with the letter “I” for the “Initial” position of the washer.



Move the center of the washer in the manner listed below:
Move 7.0 centimeters to the right, and then
Move 2.0 centimeters to the left, and then
STOP.....Label this circle “F” for the “Final” position of the washer.

- A) What was the initial position of the washer? _____
- B) What is the final position of the washer? _____
- C) What is the distance traveled by the washer? _____
- D) What is the displacement of the washer? _____
- E) Which of the underlined quantities are numerically equal? _____

