**Distance vs. Displacement Practice**

1. *Bessie the cow and Sally the bird both traveled from point “A” to point “B.” Sally traveled in a straight line and Bessie did not.*
2. What’s the distance Bessie the cow traveled?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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1. What’s the distance Sally the bird traveled?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. What is Bessie the cow’s displacement?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. What is Sally the bird’s displacement?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. *The race track shown is 100 meters around.*
5. If the car travels once around the racetrack, what distance does it travel? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



1. If the car travels twice around the racetrack, what distance does it travel? \_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. If the car travels once around the racetrack, what is its displacement? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Is the displacement below positive or negative? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



1. *Use the number line below to answer the following questions:*



1. Draw an arrow to show the displacement.
2. Is the initial position positive or negative? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Is the final position positive or negative? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. Is the displacement positive or negative? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. What is the displacement [size (with units) and direction (+ or -)]? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
6. Use the number line below to answer the following questions:



1. Draw an arrow to show the displacement.
2. Is the initial position positive or negative? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Is the final position positive or negative? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. Is the displacement positive or negative? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. What is the displacement [size (with units) and direction (+ or -)]? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
6. Use the number line below to help answer the following questions about Freddy the cat:



1. Freddy started at the –3 m position. (mark this position with an “a”)
2. First, Freddy walked 2 meters in the positive direction (right) to the –1 m position. (mark this position with an “b”)
3. Second, Freddy walked 5 meters in the positive direction to the +4 m position. (mark this position with an “c”)
4. Third, Freddy walked 1 meter in the negative direction to the +3 m position. (mark this position with an “d”)
5. Finally, Freddy walked 8 meters in the negative direction to the –5 m position. (mark this position with an “e”)
6. Draw a displacement arrow that starts at Freddy’s initial position (-3 m) and ends at Freddy’s final position (-5 m).
7. What was Freddy’s total displacement (be sure to include sign, number, and units) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
8. What was the total distance Freddy traveled?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
9. Is Freddy’s total displacement equal in size to Freddy’s total distance traveled?\_\_\_\_\_\_\_\_\_\_\_