

Name _____

Date _____

Section _____

Force & Motion: Investigation 1
Distance

1. Calculate the distance traveled when x_i is 12 units and x_f is 48 units.
2. Calculate the distance traveled when x_i is 3 km and x_f is 121 km.
3. Calculate the distance traveled when x_i is 49 km and x_f is 201 km.
4. Calculate the distance traveled when a car travels from an initial position of 10 km to a final position of 45 km.
5. Calculate the distance traveled when a car travels from an initial position of 30 km to a final position of 72 km.

6. Calculate the distance traveled when a car travels from an initial position of 5 km to 26 km.

7. Car A starts at an initial position at 6 km and travels to a final position at 33 km. Car B starts at an initial position at 15 km and travels to a final position at 40 km. Which car traveled a greater distance?

8. Car A starts at an initial position at 2 km and travels to a final position at 116 km. Car B starts at an initial position at 26 km and travels to a final position at 103 km. Which car traveled a greater distance? How much greater?

9. Car A starts at an initial position at 19 m and travels to a final position at 72 m. Car B starts at an initial position at 38 m and travels to a final position at 120 m. Which car traveled the shortest distance?

10. Car A starts at an initial position at 6 km and travels to a final position at 29 km. Car B starts at an initial position at 7 km and travels to a final position at 21 km. Which car traveled the shortest distance? How much shorter?

Answer Key

1. Calculate the distance traveled when x_i is 12 units and x_f is 48 units.

$$48 \text{ units} - 12 \text{ units} = 36 \text{ units}$$

2. Calculate the distance traveled when x_i is 3 km and x_f is 121 km.

$$121 \text{ km} - 3 \text{ km} = 118 \text{ km}$$

3. Calculate the distance traveled when x_i is 49 km and x_f is 201 km.

$$201 \text{ km} - 49 \text{ km} = 152 \text{ km}$$

4. Calculate the distance traveled when a car travels from an initial position of 10 km to a final position of 45 km.

$$45 \text{ km} - 10 \text{ km} = 35 \text{ km}$$

5. Calculate the distance traveled when a car travels from an initial position of 30 km to a final position of 72 km.

$$72 \text{ km} - 30 \text{ km} = 42 \text{ km}$$

6. Calculate the distance traveled when a car travels from an initial position of 5 km to 26 km.

$$26 \text{ km} - 5 \text{ km} = 21 \text{ km}$$

7. Car A starts at an initial position at 6 km and travels to a final position at 33 km. Car B starts at an initial position at 15 km and travels to a final position at 40 km. Which car traveled a greater distance?

$$\text{Car A: } 33 \text{ km} - 6 \text{ km} = 27 \text{ km}$$

$$\text{Car B: } 40 \text{ km} - 15 \text{ km} = 25 \text{ km}$$

Car A traveled the greater distance

8. Car A starts at an initial position at 2 km and travels to a final position at 116 km. Car B starts at an initial position at 26 km and travels to a final position at 103 km. Which car traveled a greater distance? How much greater?

$$\text{Car A: } 116 \text{ km} - 2 \text{ km} = 114 \text{ km}$$

$$\text{Car B: } 103 \text{ km} - 26 \text{ km} = 77 \text{ km}$$

Car A traveled the greater distance

$$\text{Car A} - \text{Car B} = 114 \text{ km} - 77 \text{ km} = 37 \text{ km greater}$$

9. Car A starts at an initial position at 19 m and travels to a final position at 72 m. Car B starts at an initial position at 38 m and travels to a final position at 120 m. Which car traveled the shorter distance?

$$\text{Car A: } 72 \text{ m} - 19 \text{ m} = 53 \text{ m}$$

$$\text{Car B: } 120 \text{ m} - 38 \text{ m} = 82 \text{ m}$$

Car A traveled the shorter distance

10. Car A starts at an initial position at 6 km and travels to a final position at 29 km. Car B starts at an initial position at 7 km and travels to a final position at 21 km. Which car traveled the shortest distance? How much shorter?

$$\text{Car A: } 29 \text{ km} - 6 \text{ km} = 23 \text{ km}$$

$$\text{Car B: } 21 \text{ km} - 7 \text{ km} = 14 \text{ km}$$

Car B traveled the shorter distance

$$\text{Car A} - \text{Car B} = 23 \text{ km} - 14 \text{ km} = 9 \text{ km shorter}$$