

Yarn Vector Lab

In today's lab, you will be using a piece of yarn to simulate different vectors. You will be given a long piece of yarn and several pieces of tape. You will use the yarn and your ruler to measure each vector on the list. Once your vector is the appropriate length, tape the yarn down to the desk and measure the next vector. You should end up with several different shapes.

For each problem you will be asked to determine 2 things: the **Total Distance Traveled (TDT)** and the **Displacement (D)**. Displacement measures the distance from the starting point.

- To determine the Total Distance Traveled (TDT) add the length of each vector
- To determine the Displacement (D) measure how far away the starting point is from the end point of the vector path.

For each problem also draw a sketch showing each vector

Path 1:

1. 15cm North
2. 15cm East
3. 15cm South
4. 10cm West

Total Distance Traveled: _____

Displacement: _____

Path 2:

1. 10cm North
2. 25cm East
3. 7cm South
4. 20cm West

Total Distance Traveled: _____

Displacement: _____

Path 3:

1. 20 cm North
2. 15cm East
3. 30cm South
4. 20cm Northwest

Total Distance Traveled: _____

Displacement: _____

Path 4:

1. 15cm North
2. 25cm West
3. 20cm Southwest

Total Distance Traveled: _____

Displacement: _____

Path 5:

1. 20cm Northeast
2. 20cm Southeast
3. 19cm West

Total Distance Traveled: _____

Displacement: _____

Path 6:

1. 10cm North
2. 10cm Northwest
3. 30cm East
4. 15cm Southwest
5. 15cm East
6. 5cm South
7. 10cm West
8. 10cm Northwest

Total Distance Traveled: _____

Displacement: _____

Path 7:

1. 10cm West
2. 15cm Northeast
3. 10cm East
4. 30cm Southwest
5. 20cm East
6. 10cm South
7. 30cm Northwest
8. 10cm Southwest

Total Distance Traveled: _____

Displacement: _____

Path 8:

1. 10cm Northeast
2. 20cm East
3. 30cm Southwest
4. 30cm East
5. 25cm North
6. 10cm Southwest
7. 15cm West

Total Distance Traveled: _____

Displacement: _____