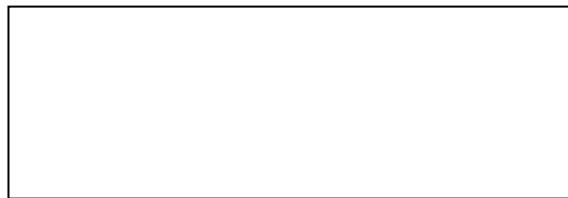


## 5. Distance vs Displacement Scalar and Vector Quantities

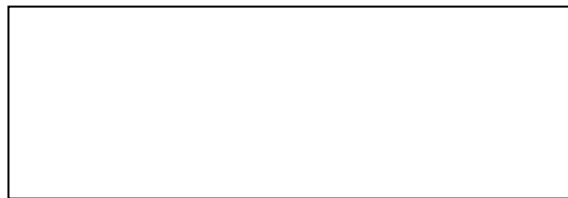
- **Scalar Quantity:** has magnitude (size) but no direction.  
:Scalar quantities include speed and distance.
- **Vector quantity:** has both magnitude and direction  
= matters how much or how fast it moves, and also where.  
: Vector quantities include velocity and displacement (or position).
- Which measurements are scalar? Which are vector?
  - a) 15 hm NE
  - b) 12 s
  - c) 19 m/s S
  - d) 1.8 cm
- Scalar vs Vector quantities are on pp. 296-297
- Is there really a difference? YES THERE IS!
- Example:  
A physics teacher walks 4 meters East, 2 meters South, 4 meters West, and finally 2 meters North.



1. What distance has she traveled? \_\_\_\_\_
2. What was her displacement? \_\_\_\_\_

## 5. Distance vs Displacement = Scalar and Vector Quantities

- **Scalar Quantity:** has magnitude (size) but no direction.  
:Scalar quantities include \_\_\_\_\_
- **Vector quantity:** has both magnitude and direction  
= matters how much or how fast it moves, and also where.  
: Vector quantities include \_\_\_\_\_
- Which measurements are scalar? Which are vector?
  - e) 15 hm NE
  - f) 12 s
  - g) 19 m/s S
  - h) 1.8 cm
- Scalar vs Vector quantities are on pp. 296-297
- Is there really a difference? YES THERE IS!
- Example:  
A physics teacher walks 4 meters East, 2 meters South, 4 meters West, and finally 2 meters North.



3. What distance has she traveled? \_\_\_\_\_
4. What was her displacement? \_\_\_\_\_

