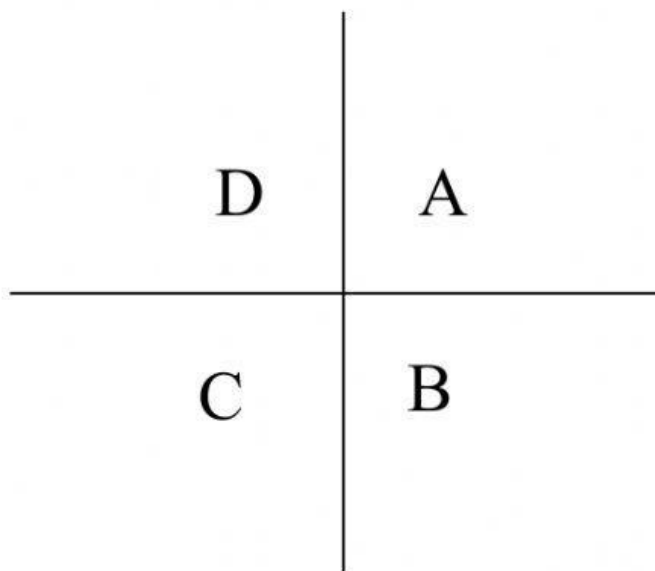


Name: _____ Date: _____

PHYSICS VECTORS AND SCALARS

Part 1. Determine if the physics parameter is a **vector measurement** or **scalar measurement**. If a vector, write **V** in the space beside the word. If a scalar, write **S** in the space beside the word.

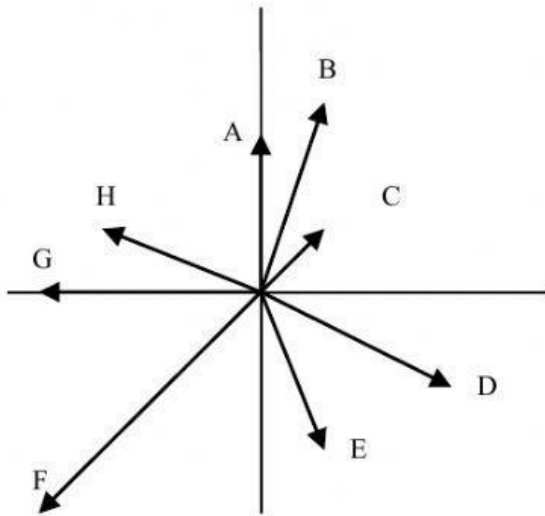
_____ Time	_____ Work
_____ Distance	_____ Momentum
_____ Area	_____ Weight
_____ Velocity	_____ Mass
_____ Speed	_____ Volume
_____ Force	_____ Charge
_____ Displacement	_____ Magnetic Field
_____ Energy	_____ Acceleration



Part 2. Coordinates and Direction. Identify in which quadrant (A, B, C, or D) each direction lies given geographic or Cartesian directions. Choose the correct letter in the box next to the given direction.

Move east, then north	<input type="text"/>	45°	<input type="text"/>
Move north, then west	<input type="text"/>	355°	<input type="text"/>
Move south, then east	<input type="text"/>	30°	<input type="text"/>
Move west, then south	<input type="text"/>	305°	<input type="text"/>
325°	<input type="text"/>	100°	<input type="text"/>
120°	<input type="text"/>	225°	<input type="text"/>

Part 3. Vectors. Match the letter of the vector on the coordinates with the magnitude & directions listed in the table to the right. The directions are based on polar coordinates.



2 km @ 45°	_____	8 km @ 330°	_____
8 km @ 180°	_____	6 km @ 160°	_____
10 km @ 225°	_____	6 km @ 290°	_____
4 km @ 90°	_____	7 km @ 70°	_____

Part 4: Multiple Choice. Choose the correct answer.

- _____ 1. Which positional directions are negative directions by convention?
 A. Up & Left
 B. Up & Right
 C. Down & Left
 D. Down & Right
- _____ 2. Which positional directions are positive directions by convention?
 A. Up & Left
 B. Up & Right
 C. Down & Left
 D. Down & Right
- _____ 3. Which geographic directions are negative directions by convention?
 A. North & East
 B. North & West
 C. South & East
 D. South & West
- _____ 4. Which geographic directions are positive directions by convention?
 A. North & East
 B. North & West
 C. South & East
 D. South & West
- _____ 5. All scalar measurements need
 A. Magnitude and direction
 B. Magnitude only
 C. Direction only
 D. No units

- _____ 6. All vector measurements need
A. Magnitude and direction C. Direction only
B. Magnitude only D. No units
- _____ 7. Betty rode her motorcycle with a velocity of 30 m/s NW. What is the 30 m/s?
A. The direction C. The displacement
B. The magnitude D. The measurement
- _____ 8. Which vectors are identical?
A. 80 north & 80 east C. 60 north & 60 north
B. 80 north & 60 north D. 60 north & 60 east
- _____ 9. Which vectors are identical?
A. 25 south & 50 south C. 50 east & 25 east
B. 50 east & 50 east D. 25 east & 25 west
- _____ 10. Helen walked 50 m E, turned, walked 40 m N. Which direction best describes Helen's overall direction of movement?
A. 39° C. 141°
B. 129° D. 219°
- _____ 11. Lolita walked 80 m W, turned, walked 25 m N. Which direction best describes Lolita's overall direction of movement?
A. 83° C. 197°
B. 163° D. 253°
- _____ 12. Noelle traveled 100 m @ 90° , turned 50 m @ 180° . Which direction best describes Noelle's overall direction of movement?
A. North C. Northwest
B. Northeast D. East