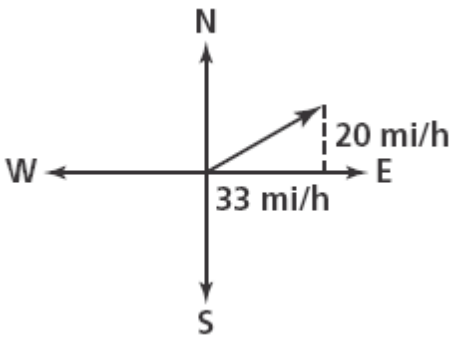
Name: _____

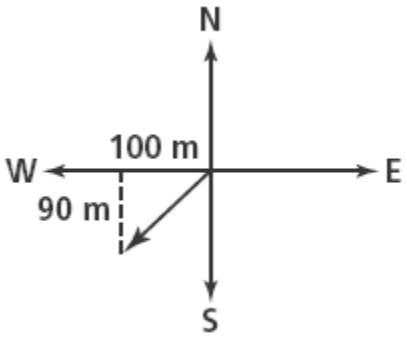
Unit Vector and Direction Angles

1) Find the magnitude and direction of each vector.

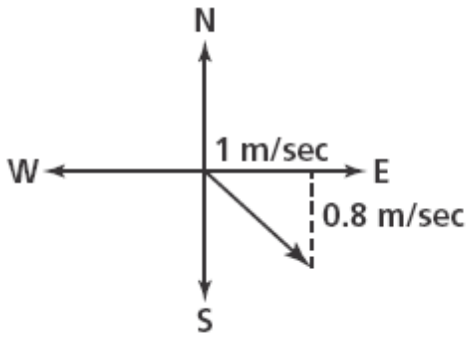
1)



2)



3)



2) Find the unit vectors of a and b in each of the following cases:

(1) $a = 4j$ and $b = 6i + 4j$

(2) $a = -i + 4j$ and $b = 2i - 4j$

(3) $a = 3i + 2j$ and $b = 3j$

3) Given the vectors u=$\langle 4,-2 \rangle$ and v=$\langle 2,3 \rangle$

Determine

a- v + u

b- 2u+3v

c- $\|u\|$.

4) If u=5**i**-3**j** and v=-6**i**+4**j**, find 4u-5v and 4u+5v

5) Find the magnitude of V=6**i**+8**j**

6) Let v=-4**i** + **j** and w=**i**-4**j**.

Find |2v-w|.

7) Express each of the vectors in the form a**i** + b**j**

1) $\overrightarrow{P_1P_2}$ if P_1 is the point (1, 3) and P_2 is the point (2, -1)

2) $\overrightarrow{OP_3}$ if O is the origin and P_3 is the midpoint of the vector joining P_1(2, -1) and P_2(-4, 3).

3) The vector from the point A(2, 3) to the origin.

4) The sum of the vectors $\overrightarrow{AB}$ and $\overrightarrow{CD}$, given the four points A(1, -1), B(2, 0), C(-1, 3) and D(-2, 2).