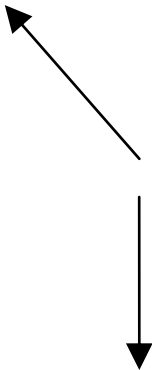
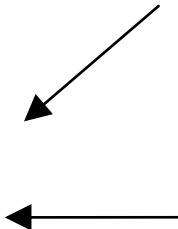
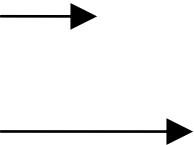
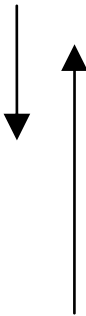
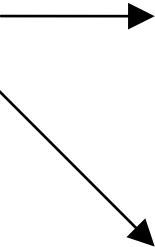
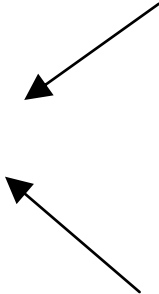
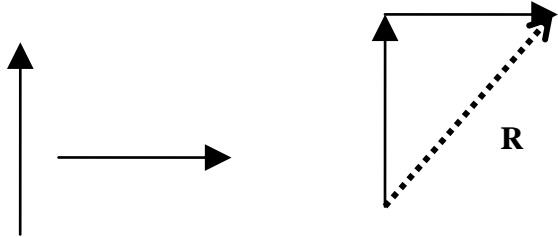


Vector Addition Worksheet

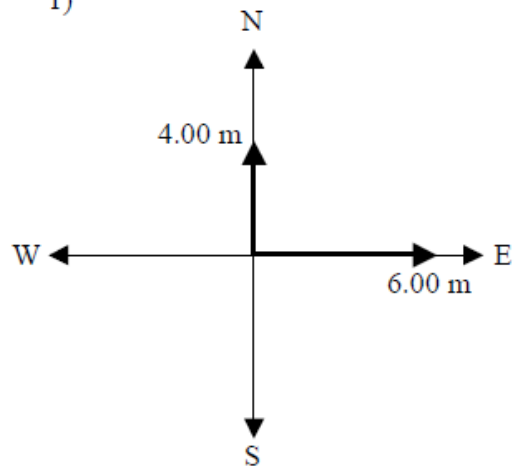
**Directions:** Graphically add each pair of vectors shown below in its box, making sure to show the vector addition as well as the resultant with a dotted line and arrowhead. If there is no resultant, **write “no R”**.

**Example:**

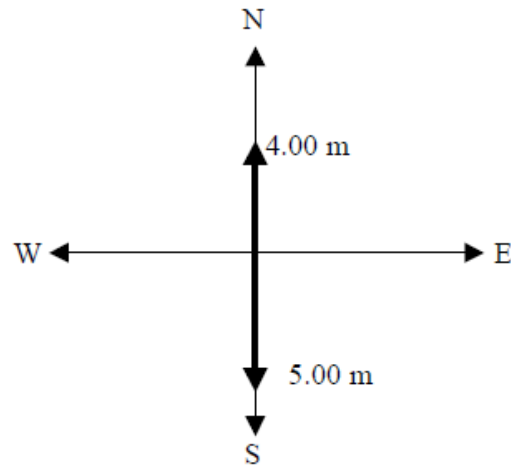


Vectors Practice: Sketch, then calculate the magnitude and direction of the resultant for each of the following pairs of vectors.

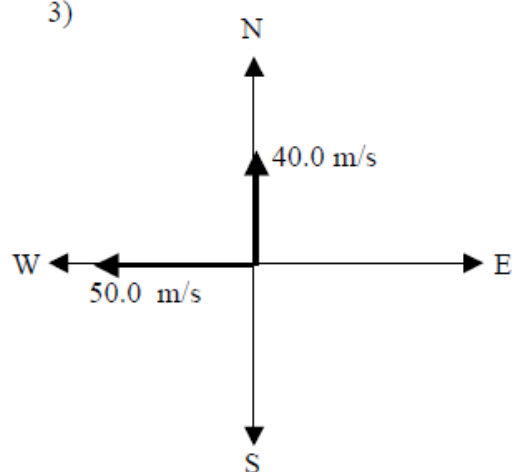
1)



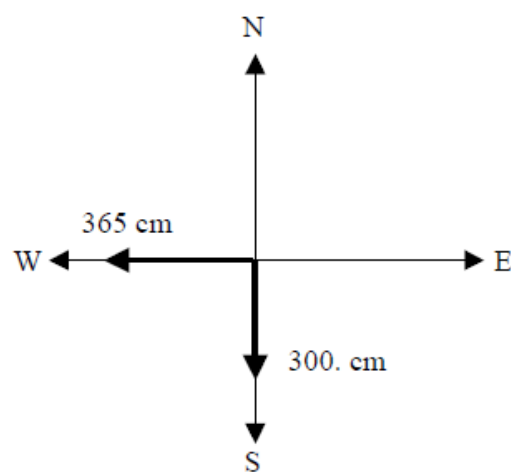
2)



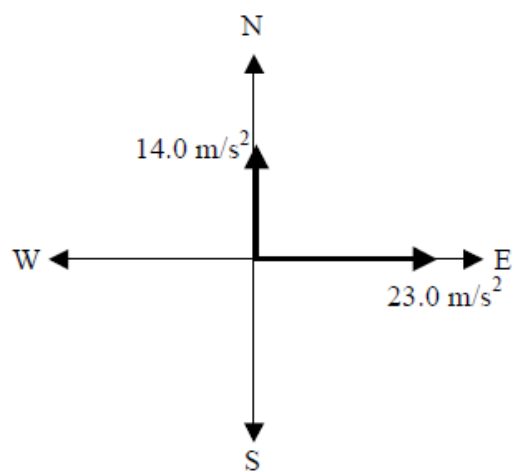
3)



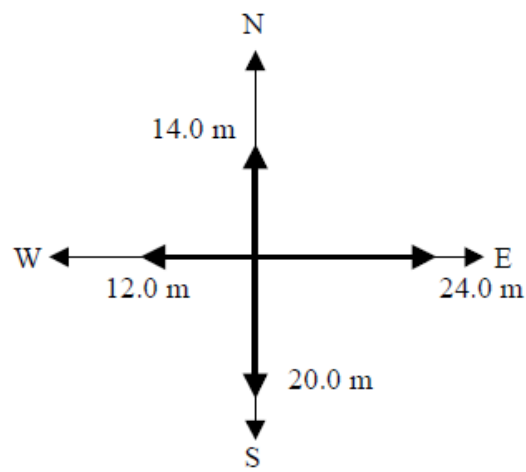
4)



5)

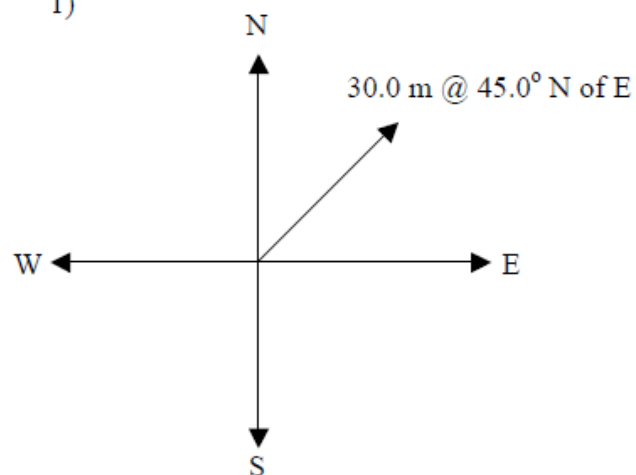


6)

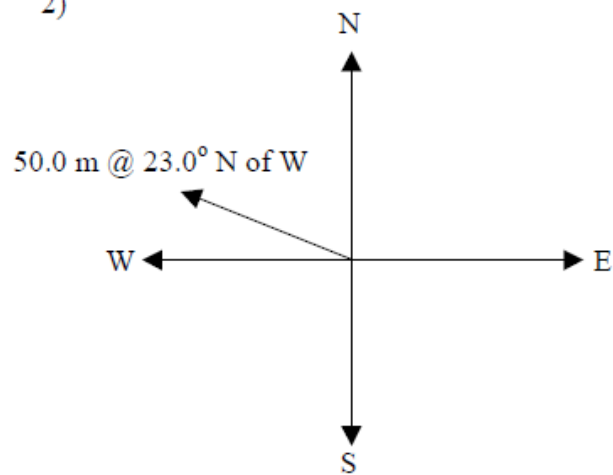


Vectors Practice: Sketch, then calculate the components of the following vectors.

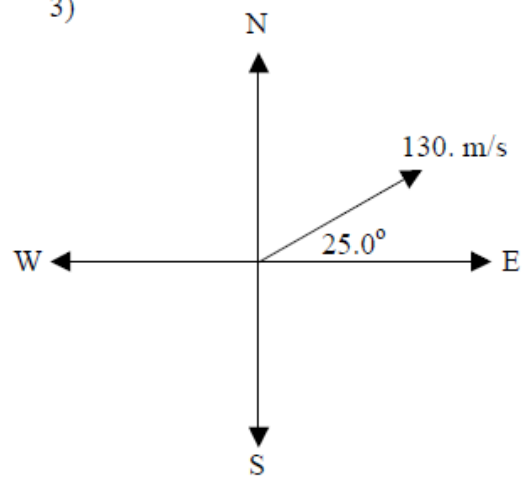
1)



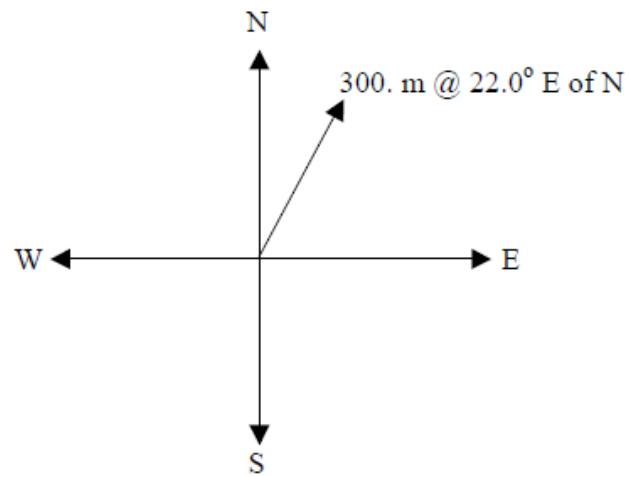
2)



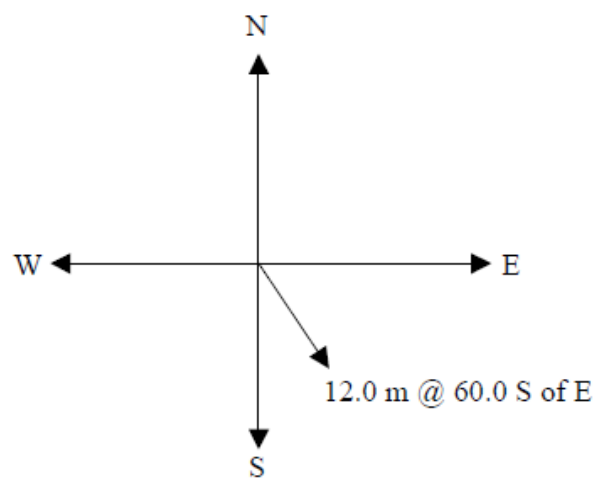
3)



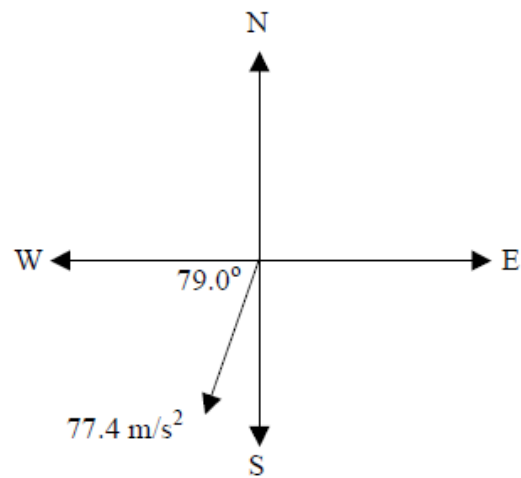
4)



5)



6)



## Vector Practice: Answers

### Resultants:

- 1) 7.21 m @  $33.7^\circ$  N of E or  $56.3^\circ$  E of N
- 2) 1 m @ S
- 3) 64.0 m/s @  $38.7^\circ$  N of W or  $51.3^\circ$  W of N
- 4) 472 cm @  $39.4^\circ$  S of W or  $50.6^\circ$  W of S
- 5) 26.9 m/s @  $31.3^\circ$  N of E or  $58.7^\circ$  E of N
- 6) 13.4 m @  $26.6^\circ$  S of E or  $63.4^\circ$  E of S

### Components:

- |                                  |                               |
|----------------------------------|-------------------------------|
| 1) $r_N = 21.2$ m                | $r_E = 21.2$ m                |
| 2) $r_N = 19.5$ m                | $r_W = 46.0$ m                |
| 3) $v_N = 54.9$ m/s              | $v_E = 118$ m/s               |
| 4) $r_N = 278$ m                 | $r_E = 112$ m                 |
| 5) $r_S = 10.4$                  | $r_E = 6$                     |
| 6) $a_W = 14.8$ m/s <sup>2</sup> | $a_S = 76.0$ m/s <sup>2</sup> |