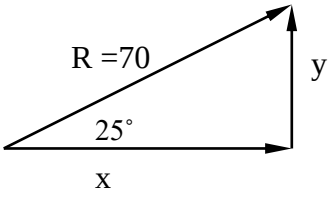
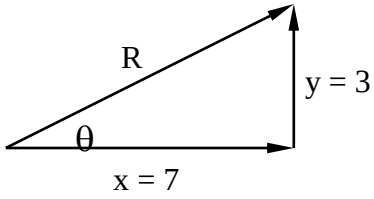
2.1 Worksheet: Vector Components

For each question, find the value of x, y, R(s) and/or theta as needed (R is the resultant vector)

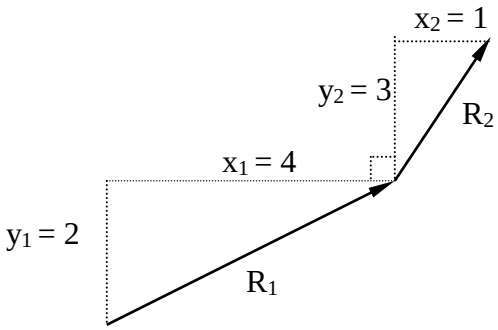
1.



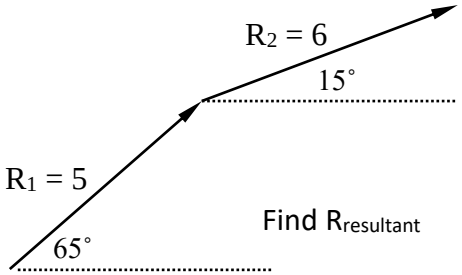
2.



3.

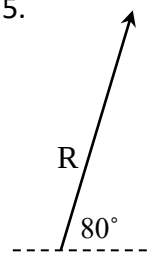


4.



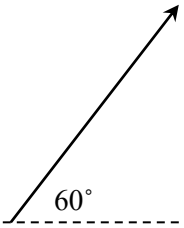
Break up the following vectors into their vertical and horizontal components i.e. the R_x and R_y. The length of each vector R is 10.0 cm.

5.

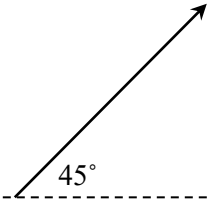


6.

7.

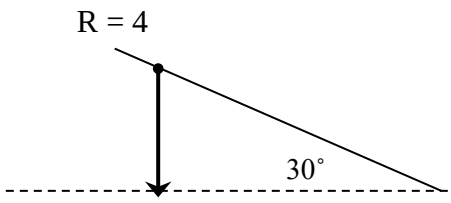


8.

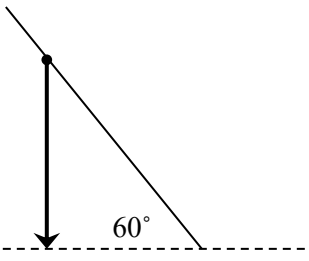


Break up the following vectors into their components that are perpendicular and parallel to the slope components i.e. the R_{para} and R_{perp}. The length of each vector R is 4.0 cm.

9.



10.



1) x = 63; y = 30. 2) R = 7.6; θ = 23° 3) R_1 = 4.47; R_2 = 3.16 4) $R_{resultant}$ = 10.0
5) R_x = 1.7 cm; R_y = 9.8 cm 6) R_x = 3.4 cm; R_y = 9.4 cm 7) R_x = 5.0 cm; R_y = 8.7 cm 8) R_x = 7.1 cm; R_y = 7.1 cm
9) R_{para} = 2 cm; R_{perp} = 3.5 cm 10) R_{para} = 3.5 cm; R_{perp} = 2 cm