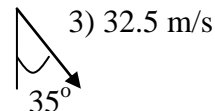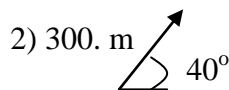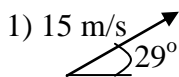# Physics
Vector Sheet

Directions: make no marks on this sheet. Do these problems **on your own paper** and check your answer. The answers are on the left side.

Part 1 - Convert these Angle-Magnitude vectors to Vector-Component vectors.
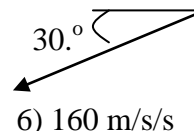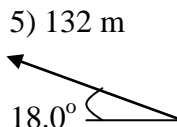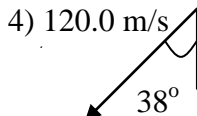
1) 13 m/s**x** + 7.3m/s**y**

2) 230m**x** + 190m**y**

3) 18.6m/s**x** -26.6m/s**y**

4) -73.8m/s**x** - 94.6 m/s**y**

5) -126m**x** + 40.8m**y**

6) -140m/s/s**x** - 80.m/s/s**y**

1) 15 m/s 29°

2) 300. m 40°

3) 32.5 m/s 35°

4) 120.0 m/s 38°

5) 132 m 18.0^o

30.º

6) 160 m/s/s

Part 2 - Convert these Vector-Component vectors into Angle-Magnitude vectors. Find the angle they make with the **x axis**

7) 7.8 m, up and right 50.º above the x axis

8) 7.62 m, left and up 66.8^o above the x axis

9) 5.3 m, left and down 37.3^o below the x axis

10) 5.81 m, right and down 78.9^o below the x axis

7. 5.0 m**x** + 6.0 m**y**

8. -3.00 m**x** + 7.00 m**y**

9. -4.2 m**x** -3.2 m**y**

10. 1.12 m**x** - 5.70 m**y**

Part 3 - Add or Subtract these Vector component vectors from Part 2

11) 2.0m**x** + 13.0m**y**

12) 8.0m**x** - 1.0m**y**

13) -1.2m**x** - 10.2m**y**

14) -3.1m**x** - 8.9m**y**

11. #7 + #8

12. #7 - #8

13. #9 - #8

14. #10 + #9

Part 4 - Add these Angle-Magnitude vectors analytically, and express their sum as an Angle-Magnitude Vector.

15. (Answer: 18m, right and a little down, 7.7^o below the **x**-axis)

16. (Answer: 44m, right and down, 31° below the **x**-axis)

A 12 m 25°

A 32 m 30.º

B 48° 10.m

B 40. m 15°