Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Physics 11

**Worksheet 3.1**

**Vector Operations**

Perform the following vector operations graphically (i.e. draw them) and draw the resultant.

|  |  |
| --- | --- |
| 1. 10 m South + 20 m East | 1. 15 m/s left – 10 m/s down |
| 1. 50 m West + 5 x (10 m South) | 1. (40 m/s2 up) x 2 + 40 m/s2 right |

Perform the following vector operations graphically, draw the resultant, and write the resultant in words.

|  |  |
| --- | --- |
| 1. 7 m/s right + 3 m/s up | 1. 7 m/s right - (3 m/s up) x 2 |
| 1. 8 m West + 2 m North | 1. – (2 m/s2 North) + 3 x (1 m/s2 East) |

Answers: 1 to 4) Check with your friends. Ask Mr. Q if you’re unsure.  
5) 7.62 m/s [23.2o above horizontal] 6) 9.22 m/s [40.6o below horizontal]  
7) 8.25 m [14.0o N of W] or [76.0o W of N] 8) 3.61 m/s2 [56.3o E of S] or [33.7o S of E]