

Physics 1214, Homework #1: solutions

Answers to multiple choice questions: M1: C, M2: B,C; M3: B.

P1: $\mathbf{A} + \mathbf{B} = 3\mathbf{i} + 4\mathbf{j}$

$$\mathbf{A} - \mathbf{B} = -\mathbf{i}$$

$$|\mathbf{A} + \mathbf{B}| = 5$$

$$|\mathbf{A} - \mathbf{B}| = 1$$

$$\theta(\mathbf{A} + \mathbf{B}) = 53.13^\circ$$

$$\theta(\mathbf{A} - \mathbf{B}) = 180^\circ$$

P2: $b = -1, a = 2$

P3: (a) $x = 9$ m, $v_x = 6$ m/s, $a_x = 2$ m/s²

(b) $x = 5$ m, $v_x = 2$ m/s, $a_x = 0$

P4: $v_{xi} = 1$ m/s