

Show all work. 5 points each.

1. Determine if the points lie in a straight line: $D(0, -5, 5)$, $E(1, -2, 4)$, $F(3, 4, 2)$.

2. Let $\mathbf{a} = \langle 5, -12 \rangle$ and $\mathbf{b} = \langle -3, -6 \rangle$:

(i) Find $|\mathbf{a} + \mathbf{b}|$.

(ii) Illustrate (draw) the associated triangle (or parallelogram) formed by $\mathbf{a} + \mathbf{b}$, \mathbf{a} and \mathbf{b} .