Contents

1 Section 4.1

1.1 4.1.1

Find $|a-b|, 2a+b, 3a-4b$

$$a = \begin{bmatrix} 5 \\ 5 \\ -6 \end{bmatrix}, b = \begin{bmatrix} 2 \\ -2 \\ -5 \end{bmatrix}$$

$$\begin{aligned} \|a-b\| &= \begin{bmatrix} 3 \\ 7 \\ -1 \end{bmatrix} \\ &= \sqrt{(3)^2 + (7)^1 + (-1)^2} \\ \|a-b\| &= \sqrt{59} \end{aligned}$$

$$\boxed{\|a-b\| = \sqrt{59}}$$

$$2a+b = \begin{bmatrix} 12 \\ 8 \\ -17 \end{bmatrix}$$

$$2a+b =< 12, 8, -17 >$$

$$\boxed{2a+b =< 12, 8, -17 >}$$

$$3a-4b = \begin{bmatrix} 7 \\ 23 \\ 2 \end{bmatrix}$$

$$3a-4b =< 7, 23, 2 >$$

$$\boxed{3a-4b =< 7, 23, 2 >}$$