

6.2 Review Problems

Find the dot product

1. $u = \langle -5, 2 \rangle$ $v = \langle 8, 13 \rangle$ 2. $u = \langle -2, 7 \rangle$ $v = \langle -5, -8 \rangle$

Find the angle between the vectors

3. $u = \langle 5, 2 \rangle$ $v = \langle -6, -1 \rangle$ 4. $u = \langle 8, 5 \rangle$ $v = \langle -9, -2 \rangle$

Determine whether the vectors are parallel, orthogonal or neither. If they are orthogonal prove using the dot product.

$$1. \quad u = \langle -4, -1 \rangle \quad v = \langle 1, -4 \rangle$$

$$2. \quad u = \langle 2, 5 \rangle \quad v = \left\langle \frac{10}{3}, \frac{4}{3} \right\rangle$$

$$3. \quad u = \langle 2, -7 \rangle \quad v = \langle -4, 14 \rangle$$