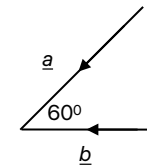
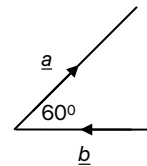
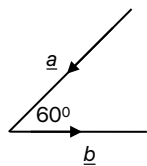
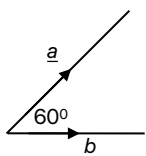


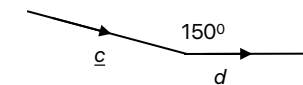
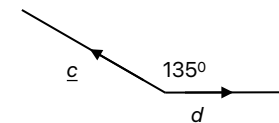
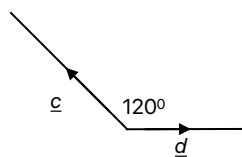
1 For each pair of vectors below, find the scalar product $\underline{a} \cdot \underline{b}$

In all four of the diagrams $|\underline{a}| = 3$ and $|\underline{b}| = 2$

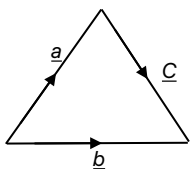


2 For each pair of vectors below, find the scalar product $\underline{c} \cdot \underline{d}$

In all four of the diagrams $|\underline{c}| = 3$ and $|\underline{d}| = 2\sqrt{2}$



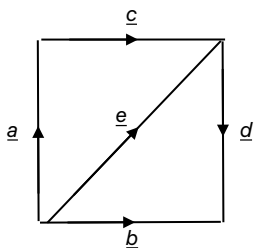
3 An equilateral triangle with sides of length 4 is shown.



- Find (a) $\underline{a} \cdot \underline{b}$
- (b) $\underline{a} \cdot \underline{c}$
- (c) $\underline{b} \cdot \underline{c}$
- (d) $\underline{a} \cdot \underline{a}$

- (e) $\underline{a} \cdot (\underline{b} + \underline{c})$
- (f) $\underline{a} \cdot (\underline{a} + \underline{b})$
- (g) $\underline{b} \cdot (\underline{b} + \underline{c})$

4 A square with sides of length $\sqrt{2}$ is shown.



- Find (a) $\underline{a} \cdot \underline{a}$
- (b) $\underline{a} \cdot \underline{b}$
- (c) $\underline{b} \cdot \underline{c}$
- (d) $\underline{a} \cdot \underline{e}$

- (e) $\underline{c} \cdot \underline{e}$
- (f) $\underline{a} \cdot (\underline{c} + \underline{e})$
- (g) $\underline{a} \cdot (\underline{a} + \underline{b} + \underline{e})$