CSEE- Basic Maths

Vectors

Questions and Answers
Videos with expert tutorials on each topic

CSEE Basic Maths

Revision Topic: Vectors

Section A

Lesson 5 (Revision Week 2)

Instructions: Complete this worksheet and watch this revision video simultaneously on *www.mathsmemory.co.uk/International*

Pause and Play the video unlimited times to review your work and write the answers in the blank spaces. Once you have written your answers, check these with the tutorial answers, as explained in the video.

Self Assess yourself (Out of 10) on your **revision planner** after you have completed the revision video .

Question 1

Find the distance between points A (-3 1) and B (1,-2)

Bronze

Question 2

A ship sails at a velocity of 40km/h north. Water flows 10km/h due west.

Calculate the resultant velocity of the boat. Give your answer to 2 decimal places.

Bronze

Question 3

Given the vectors $\underline{a} = 3\boldsymbol{i} + 4\boldsymbol{j}$, $\underline{b} = 2\boldsymbol{i} + 5\boldsymbol{j}$ and $\underline{c} = 3\boldsymbol{i} + 3\boldsymbol{j}$, determine the magnitude of their resultant.

Silver

Question 4

Given vectors $\underline{a} = 4\boldsymbol{i}+10\boldsymbol{j}$, $\underline{b} = 15\boldsymbol{i}+10\boldsymbol{j}$

(i) Find the vector and $\underline{c} = 3\underline{a} - \underline{b}$ and its magnitude correctly to 3 significant figures.

(ii) Represent vector $\underline{c}$ in part (i) on the x - y plane.

Silver

Question 5

Given $\underline{a} = 2\boldsymbol{i}+3\boldsymbol{j}$, $\underline{b} = 6\boldsymbol{i}-2\boldsymbol{j}$ and $\underline{c}=4\boldsymbol{i}+6\boldsymbol{j}$, find:

i) the vector $\underline{d} = 2\underline{a} - \underline{b} + 1/2\,\underline{c}$

(ii) a unit vector in the direction of $\underline{d}$

Silver

Question 6

If $\underline{a} = 3\boldsymbol{i} + 2\boldsymbol{j}$, $\underline{b} = 15\boldsymbol{i} - 11\boldsymbol{j}$ and $\underline{c} = 3\boldsymbol{i} - 5\boldsymbol{j}$, find the value of x and y such that $x\underline{a} + y\underline{c} = \underline{b}$.

Gold

Question 7

If $\underline{a} = 3\boldsymbol{i} + 2\boldsymbol{j}$, $\underline{b} = 15\boldsymbol{i} - 11\boldsymbol{j}$ and $\underline{c} = 3\boldsymbol{i} - 5\boldsymbol{j}$, find the value of x and y such that $x\underline{a} + y\underline{c} = \underline{b}$.

Gold