

N5 - Applications

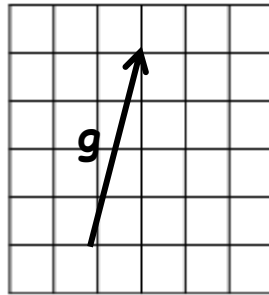
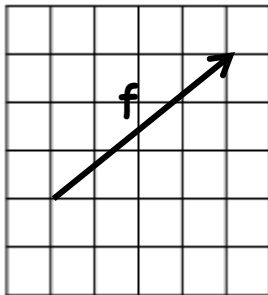
Worksheet 3

Silver Level

Outcome 1 - Adding Vectors

For the following directed line segments, sketch the resultant vector.

1

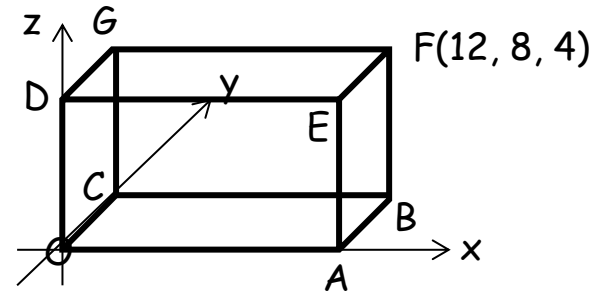


Sketch $f - g$.

Outcome 2 - Working with 3D Coordinates

Point F has coordinates (20, 3, 8). What are the coordinates of the other points?

1



Outcome 3 - Using Vector Components

Complete the following vector component calculations...

1

Vector $\mathbf{a} = \begin{pmatrix} 7 \\ 4 \\ 1 \end{pmatrix}$ and vector $\mathbf{b} = \begin{pmatrix} 5 \\ -8 \\ 3 \end{pmatrix}$.

Calculate $\mathbf{a} + \mathbf{b}$.

2

Vector $\mathbf{p} = \begin{pmatrix} 6 \\ 2 \\ 7 \end{pmatrix}$ and vector $\mathbf{q} = \begin{pmatrix} 8 \\ -1 \\ 0 \end{pmatrix}$.

Calculate $7\mathbf{p} - 5\mathbf{q}$.

Outcome 4 - Calculating Magnitude

Calculate the magnitude for the following vectors...

1

Vector $\mathbf{c} = \begin{pmatrix} 9 \\ -5 \\ 15 \end{pmatrix}$. Calculate $|\mathbf{c}|$.

2

Vector $\mathbf{m} = \begin{pmatrix} 6 \\ 0 \\ 4 \end{pmatrix}$ and vector $\mathbf{n} = \begin{pmatrix} -5 \\ 2 \\ 9 \end{pmatrix}$.

Calculate $|\mathbf{m} - \mathbf{n}|$.