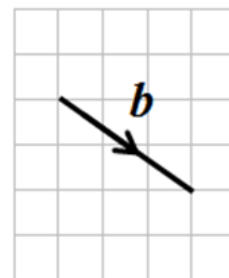
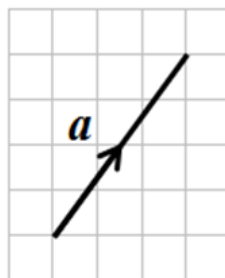
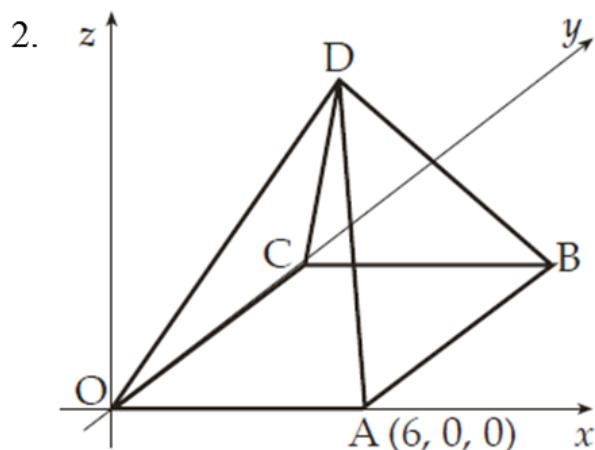


1. The diagrams opposite show 2 directed line segments a and b .



Draw the resultant of $a + 2b$.



The diagram opposite shows a square based model of a glass pyramid of height 8cm. Square OABC has a side length of 6cm.

Given $A(6, 0, 0)$ and C lies on the y -axis.

Calculate the co-ordinates of D .

3. The forces acting on an object are represented by three vectors s , t and u as given below.

$$s = \begin{pmatrix} 3 \\ -2 \\ 1 \cdot 5 \end{pmatrix} \quad t = \begin{pmatrix} -1 \\ 7 \\ 2 \cdot 5 \end{pmatrix} \quad u = \begin{pmatrix} 6 \\ -3 \\ 5 \end{pmatrix}$$

Find the resultant force.

4. Vector $m = \begin{pmatrix} 3 \\ 2 \end{pmatrix}$ and vector $n = \begin{pmatrix} -1 \\ 5 \end{pmatrix}$.

Calculate $|2m - n|$.