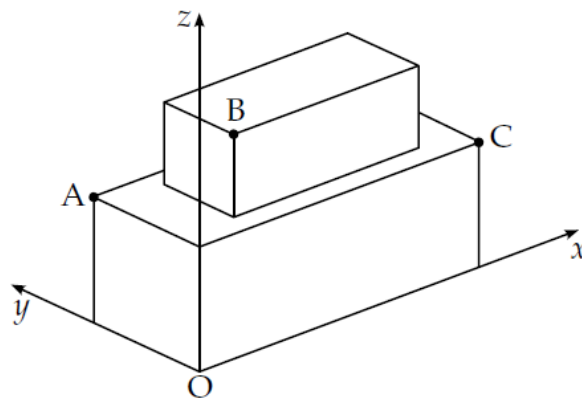
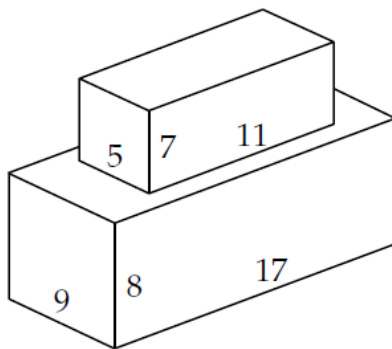


- 1 A is the point $(-3, 2, 4)$ and B is $(-1, 3, 2)$. Find
- (a) the components of vector \overrightarrow{AB} ; 1
 (b) the length of AB. 2
- 2 The vector $ai + bj + k$ is perpendicular to both the vectors $i - j + k$ and $-2i + j + k$. 3
 Find the values of a and b .
- 3 A is the point $(2, -5, 6)$, B is $(6, -3, 4)$ and C is $(12, 0, 1)$. Show that A, B and C are 4
 collinear and determine the ratio in which B divides AC.
- 4 A cuboid measuring 11 cm by 5 cm by 7 cm is placed centrally on top of another 4
 cuboid measuring 17 cm by 9 cm by 8 cm.
 Coordinates axes are taken as shown.



- (a) The point A has coordinates $(0, 9, 8)$ and C has coordinates $(17, 0, 8)$. 1
 Write down the coordinates of B.
- (b) Calculate the size of angle ABC. 6

17 Marks
