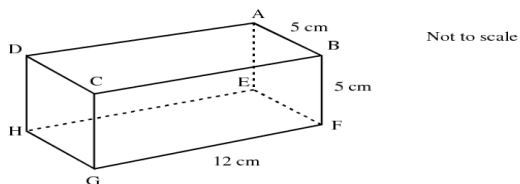


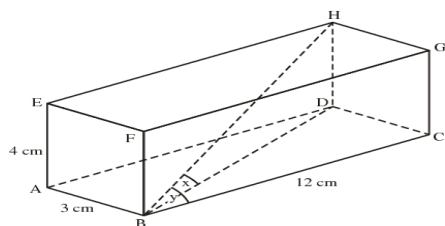
### 3D Pythagoras and Trigonometry Exam Questions

1.  $ABCDEFGH$  is a cuboid with sides of 5 cm, 5 cm and 12 cm as shown. Calculate angle  $DFH$ .



(5 marks)

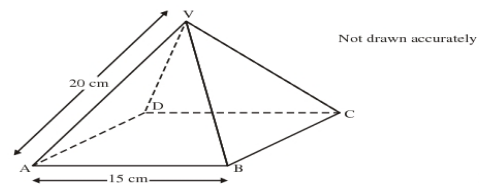
2. The diagram shows a cuboid.  $AB = 3$  cm,  $AE = 4$  cm,  $BC = 12$  cm.



- (a) Find the length of  $BH$ .  
(2 marks)
- (b) The angle between  $BH$  and  $BD$  is  $x$  and the angle between  $BH$  and  $BC$  is  $y$ .

Which angle is bigger,  $x$  or  $y$ ? You **must** show your working.  
(3 marks)

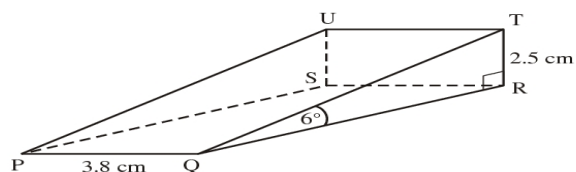
3.  $VABCD$  is a right pyramid on a square base.  $V$  is vertically above the centre of the square.  
 $VA = VB = VC = VD = 20$  cm  $AB = 15$  cm



Calculate the angle between the edge  $VA$  and the base  $ABCD$ .

(5 marks)

4. The diagram shows a door-wedge with a rectangular horizontal base  $PQRS$ . The sloping face  $PQTU$  is also rectangular.  $PQ = 3.8$  cm and angle  $TQR = 6^\circ$ . The height  $TR$  is 2.5 cm.



Not drawn accurately

Calculate the length of the diagonal  $PT$ .

(5 marks)