

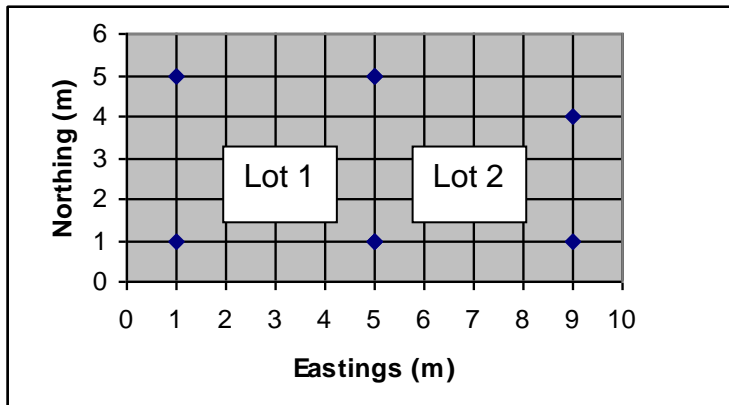
# MATHEMATICS ANSWERS

## Level One



## “Vectors”

### Task A



- 2) Square
- 3) 16 units<sup>2</sup>
- 4) 80m x 80m = 6400m<sup>2</sup> or 20 x 20 x 16 = 6400m<sup>2</sup>
- 5) Two lots of both 80 by 40m which is 3200m<sup>2</sup>

Extension: There are infinite options available – The unlikely ones are the shapes that would be difficult to build a house on, or which have many more corners and very acute angles. So long skinny triangles are not a good option.

### Task B

- 2) Trapezium
- 3)  $\left(\frac{b_1 + b_2}{2}\right)h \rightarrow \left(\frac{4 + 3}{2}\right)4 = 14 \text{ units}^2$
- 4) 7 units in each lots which would put the boundary of the lot at y = 1.75 or 35m back from the x axes. You could also subdivide along the y axes
- 5) Front lot is a rectangle while the back lot is a trapezium. (May accept that both are trapeziums).
- 6) 14 units x 400 = 5600m<sup>2</sup>, so each lot is 2800m<sup>2</sup>
- 7)  $\frac{2800}{4047} = 0.6919$  acres per lot selling at \$3000 per acre  
 $3000 \times 0.6919 = \$2075.61$  (but accept a sensibly rounded value).