Question	Working	Answer	Mark	Notes
20	Let N be the midpoint of BC Let sides of cube have length $2a$ cm $AN^2 = 4a^2 + a^2 (= 5a^2)$ or $AM^2 = 4a^2 + a^2 + 4a^2 (= 9a^2)$ eg $\tan MAN = \frac{2a}{\sqrt{"5a^2"}}$ or $\sin MAN = \frac{2a}{\sqrt{"9a^2"}}$	41.8	4	B1 for recognising that required angle is MAN (could be marked on a diagram) M1 any $a > 0$ (a could be a number or a letter) M1 correct trig statement for angle MAN, any $a > 0$ (a could be a number or a letter) A1 41.8 - 41.82
21	$x^2 = 5^2 + y^2 - 2 \times 5 \times y \cos 60^o$ $(y-1)^2 = 5^2 + y^2 - 5y$ **or** $x^2 = 5^2 + (x+1)^2 - 5x - 5$ $y^2 - 2y + 1 = 25 + y^2 - 5y$ **or** $x^2 = 5^2 + x^2 + 2x + 1 - 5x - 5$ $5y - 2y = 25 - 1$ **or** $y = 8$ **or** $3x = 21$ **or** $x = 7$	20	5	M1 recognising need for the cosine rule M1 M1 for expansion of $(y-1)^2$ or $(x+1)^2$ in a correct equation M1 for correct linear equation with correct isolation of terms A1