Question Number	Scheme		Marks
4(a)	$\frac{10.84}{50} \pm 2.3263 \times \frac{0.008}{\sqrt{50}}$ **or** $\frac{10840}{50} \pm 2.3263 \times \frac{8}{\sqrt{50}}$	any z value	M1 A1
		2.3263	B1
	= (0.2141…,0.2194…,) = awrt **(0.214, 0.219) or (214, 219)**		A1
			(4)
(b)	Since the **weights** (of individual packets) are normally distributed (the sample means will also be normally distributed).		B1
			(1)
(c)	Bindy's belief is not supported as 0.22 kg is outside of the CI		B1ft
			(1)
			Total 6

Notes

4(a)

M1 $\frac{10.84}{50} \pm z \times \frac{0.008}{\sqrt{50}}$ or $\frac{10840}{50} \pm z \times \frac{8}{\sqrt{50}}$ where $|z| > 2$ and **condone mixed units**

A1 allow $\frac{10.84}{50} \pm z \times \frac{0.008}{\sqrt{50}}$ or $\frac{10840}{50} \pm z \times \frac{8}{\sqrt{50}}$ **units must be consistent**

B1 2.3263 (condone awrt 2.33)

A1 Both values correct to 3sf

(b) **B1** Idea that we are told the underlying variable is normally distributed

(c) **B1ft** Ft their CI

Do not allow ft if their interval includes 0