

Question 11 – 2:

11(a)(i)	4.455 to 4.456... [= 4.46]	2	M1 for $[r =] \frac{28}{2\pi}$ oe
11(a)(ii)	1250 or 1247 to 1249.9...	2	M1 for $20 \times \pi \times 4.46^2$ oe
11(a)(iii)	66[.0] or 65.95 to 66.02	3	M2 for $[\tan] = \frac{20}{2 \times 4.46}$ oe or B1 for identifying angle ANB on cylinder not on rectangle
11(b)	11.8 or 11.82 to 11.83	5	M2 for $[r =] \sqrt[3]{\frac{310 \times 3}{2\pi}}$ oe or $[h =] \sqrt[3]{\frac{310 \times 3 \times 4}{\pi}}$ oe or M1 for $310 = \frac{1}{3}\pi \times r^2 \times 2r$ or $310 = \frac{1}{3}\pi \left(\frac{h}{2}\right)^2 h$ M2 for $\sqrt{(their\ r)^2 + (2 \times their\ r)^2}$ oe or M1 for $[l^2 =] (their\ r)^2 + (2 \times their\ r)^2$ oe