Daily Question

Day 4 Pure Mathematics – Mark Scheme

Question 1

(a)	**Usually answered in radians: Uses** $BCD = 3.5\times(angle),\ =3.5\times1.77=6.195\,(\text{m})$ (accept awrt 6.20)	M1 A1 **(2)**
(b)	Area $= \frac{1}{2}(3.5)^2\times1.77=10.84 \quad (\text{m}^2)$	M1 A1 **(2)**
(c)	Area of triangle $= \frac{1}{2}\times3.7\times3.5\times\sin(\text{angle})$, $= \frac{1}{2}\times3.7\times3.5\times\sin(\frac{\pi}{2}-\frac{1.77}{2})$ (=awrt 4.1) Total area = "10.84"+2×"4.101" = 19.04	M1, A1 M1 A1cao **(4)** **[8]**

Question 2

(a)	**Usually answered in radians:** **Uses** Area $ZYW = \frac{1}{2}\times5^2\times(angle),\ =12.5\times0.7=8.75$ o.e.(cm^2)	M1 A1 **(2)**
(b)	Area of triangle $XYZ = \frac{1}{2}\times7\times5\times\sin Y=(11.273) \quad (\text{cm}^2)$ Area of whole flag = "8.75" + "11.273", = 20.02 (cm^2)	M1 M1, A1 **(3)**
(c)	$(XZ^2)=7^2+5^2-2\times7\times5\cos(\pi-0.7)$, | Or $(XZ^2)=(7+5\cos0.7)^2+(5\sin0.7)^2$ Use of arc length formula $s=5\theta$ $(=3.5)$ Total perimeter = 12+"3.5"+"11.293" = 26.79 cm	M1, M1 ddM1 A1 **(4)**