

1	$7^2 - (10 \div 2)^2 (= 24) \text{ or } \frac{\sin\left(\frac{1}{2}x\right)}{5} = \frac{\sin 90}{7} \text{ oe or}$ $\cos x = \frac{7^2 + 7^2 - 10^2}{2 \times 7 \times 7} \text{ oe or } \sin\left(\frac{1}{2}x\right) = \frac{5}{7} \text{ oe or } \cos y = \frac{5}{7} \text{ oe}$	5	M1 or use of sine rule or cosine rule to find angle (x) of the apex or angle y $\left(= 90 - \frac{1}{2}x\right)$
	$\sqrt{7^2 - (10 \div 2)^2} (= \sqrt{24} = 2\sqrt{6} = 4.898...) \text{ or}$ $(x =) 2 \times \sin^{-1}\left(\frac{5 \times \sin 90}{7}\right) (= 91.169...) \text{ oe or}$ $(x =) 2 \times \sin^{-1}\left(\frac{5}{7}\right) (= 91.169...) \text{ oe or}$ $(x =) \cos^{-1}\left(\frac{7^2 + 7^2 - 10^2}{2 \times 7 \times 7}\right) (= 91.169...) \text{ oe or}$ $(x =) 2\left(90 - \cos^{-1}\left(\frac{5}{7}\right)\right) (= 2(90 - 44.415)... = 91.169...)$ <p>Allow 5 from correct working</p>		M1 for complete method to find height of triangle or the angle (x) of the apex $\cos^{-1}\left(\frac{5}{7}\right) (= 44.415...) \text{ and}$ $5 \times \tan' 44.415...' (= 4.898...) \text{ or}$ $7 \times \sin' 44.415...' (= 4.898...)$ or $\sin^{-1}\left(\frac{5}{7}\right) (= 45.584...) \text{ and}$ $\frac{5}{\tan' 45.584...' (= 4.898...) \text{ or}$ $7 \times \cos' 45.584...' (= 4.898...)$
	<p>E.g.</p> $6 \times 10 + \frac{(10 \div 2) \times \sqrt{24}}{2} \times 2 (= 60 + 10\sqrt{6} = 84.494...) \text{ or}$ $5 \times (6 + 6 + \sqrt{24}) (= 60 + 10\sqrt{6} = 84.494...) \text{ or}$ $\left(\frac{1}{2} \times 7 \times 7 \times \sin' 91.169...' + 10 \times 6\right) (= 60 + 10\sqrt{6} = 84.494...)$		M1 for method to find the total area of the pentagon allow answers in the range 84.49 – 85
	<p>E.g.</p> $'84.494' \div 16 (= 5.28...) \text{ or } (60 + 10\sqrt{6}) \div 16 (= 5.28...)$		M1 for method to find the number of tins required using their area
		6	A1 dep on at least M2
Total 5 marks			