Marked example 2

Paper 1 style · No calculator

2 5 marks SL 3.2 · 3.3 ●●○ Typical

In the triangle PQR, $PQ = 4$, $PR = 6$ and $Q\hat{P}R = 60°$.

(a) Find QR, giving your answer in the form $k\sqrt{7}$. **[3]**

(b) Find the exact area of the triangle PQR. **[2]**

MARKSCHEME (a)

$QR^2 = 4^2 + 6^2 - 2 \times 4 \times 6\cos 60°$ **M1**

$= 52 - 48 \times \frac{1}{2} = 28$ **A1**

$QR = 2\sqrt{7}$ **A1**

Total 3 marks

Note $\cos 60° = \frac{1}{2}$.

MARKSCHEME (b)

$\frac{1}{2} \times 4 \times 6 \times \frac{\sqrt{3}}{2}$ **M1**

$6\sqrt{3}$ **A1**

Total 2 marks

Note $\sin 60° = \frac{\sqrt{3}}{2}$.

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