Unit Review

Specification: AQA 7357: E1, E3, B9 · Edexcel 9MA0: 5.1, 5.3, 2.9

HOMEWORK Consolidation

1 In triangle ABC, AB = 6.3 cm, BC = 5.2 cm and angle ABC = 125°. Find AC.
AQA E1 · Edexcel 5.1

2 In triangle PQR, PQ = 8 cm, QR = 12 cm and angle QPR = 70°. Find angle PRQ.
AQA E1 · Edexcel 5.1

3 In triangle ABC, AB = 13 cm, AC = 10 cm and angle ABC = 44°. Find the two possible lengths of BC.
AQA E1 · Edexcel 5.1

4 A triangle has two sides of 8 cm and 11 cm, and an area of 35 cm².
(a) Find the two possible sizes of the angle between these sides.
(b) Find the length of the third side when this angle is acute.
AQA E1 · Edexcel 5.1

5 A triangle has sides of length 5 cm, 9 cm and x cm.
(a) Find the range of possible values of x.
(b) Given that x = 13, find the size of the largest angle.
AQA E1 · Edexcel 5.1

6 No calculator. Given that $\sin 30° = \frac{1}{2}$, $\cos 30° = \frac{\sqrt{3}}{2}$ and $\tan 60° = \sqrt{3}$, use the graphs of sin, cos and tan to find the exact value of
(a) $\sin 330°$
(b) $\cos(-150°)$
(c) $\tan 240°$
AQA E3 · Edexcel 5.3

7 No calculator. Use the graph of $y = \tan\theta$ to find all the values of θ in the interval $-360° \le \theta \le 360°$ for which $\tan\theta = \tan 50°$.
AQA E3 · Edexcel 5.3

8 Sketch the graph of $y = \sin x - 1$ for $0° \le x \le 360°$. Show the coordinates of the points where the graph meets the axes and of its maximum and minimum points.
AQA E3 · Edexcel 5.3

9 No calculator. The graph of $y = \cos x$ is stretched parallel to the x-axis with scale factor 3.
(a) Write down the equation of the new graph.
(b) Write down its period.
(c) Find the coordinates of its first minimum point with $x > 0$.
AQA E3 · Edexcel 5.3

10 A field is in the shape of a triangle with sides 85 m, 60 m and 110 m.
(a) Find the size of its largest angle.
(b) Find the area of the field.
(c) A path runs from the corner opposite the 110 m side straight to that side, meeting it at right angles. Find the length of the path.
AQA E1 · Edexcel 5.1

11 *AQA-style*. No calculator. In triangle ABC, AB = 3 cm, BC = 5 cm and angle ABC = 120°.
(a) Show that AC = 7 cm. [2 marks]
(b) Find the exact area of the triangle. [2 marks]
(c) Find the exact value of $\sin BAC$. [2 marks]
AQA E1 · Edexcel 5.1 · AQA-style

12 *Edexcel-style*. (a) Sketch the graph of $y = \cos(x - 30°)$ for $0° \le x \le 360°$. Show the coordinates of the points where the graph meets the axes. [3 marks]
(b) Write down the coordinates of the maximum and minimum points. [2 marks]
(c) Given that $\cos 60° = \frac{1}{2}$, use your graph to solve $\cos(x - 30°) = \frac{1}{2}$ in this interval. [2 marks]
AQA E3 · Edexcel 5.3 · Edexcel-style