Solutions

Marking: **M1** a correct method, **A1** the correct answer.

Each answer shows the steps, then the **result**.

2.1

- it is greater than $180°$

$$\textbf{reflex}$$

2.2

- 8 sides is an **octagon**

$$(8-2)\times 180 = \mathbf{1080}°$$

2.3

- (a) **radius**
- (b) **chord** – a diameter is the special chord that passes through the centre

2.4

- a **decagon**
- sum $= (n-2)\times 180° = 8\times 180° = \mathbf{1440}°$

2.5

- **5** faces (2 triangles, 3 rectangles) and **9** edges
- **6** vertices

3.1

(a)

- the exterior angles of any polygon add to $360°$, so $360 \div 24$

$$= \mathbf{15}$$

(b)

- interior $= 180 - 24$

$$= \mathbf{156}°$$

3.2

- (a) **trapezium**
- (b) **scalene**
- (c) **cylinder**

3.3

- corresponding sides are equal in length
- corresponding angles are equal, so the shapes are identical in size as well as shape
- note that similar shapes have equal angles but sides in a fixed ratio, which is the weaker condition

3.4

- $(n-2)\times 180 = 2340$, so $n - 2 = 13$

$$n = \mathbf{15}$$

3.5

- interior + exterior $= 180°$: $4e + e = 180°$
- $5e = 180°$, so $e = 36°$
- $n = \dfrac{360°}{36°} = \mathbf{10}$

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