

1.

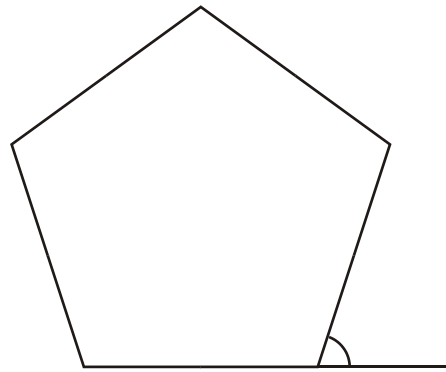


Diagram **NOT** accurately drawn

(a) Work out the size of an exterior angle of a regular pentagon.

.....° (2)

The area of the pentagon is 8560 mm^2 .

(b) Change 8560 mm^2 to cm^2 .

..... cm^2 (2)

Each side of another regular pentagon has a length of 101 mm, correct to the nearest millimetre.

(c) (i) Write down the **least** possible length of each side.

..... mm

(ii) Write down the **greatest** possible length of each side.

..... mm

(2)
(Total 6 marks)

2. A plane is flying at a speed of 1440 kilometres per hour.

How long, in seconds, will the plane take to fly a distance of 1 kilometre?

0.4 seconds

2.4 seconds

2.5 seconds

4 seconds

24 seconds

A

B

C

D

E

(Total 1 mark)

1. (a) 72

2

$$360 \div 5$$

M1 for $360 \div 5$ oe

A1 for 72

- (b) 85.6

2

$$8560 \div (10 \times 10)$$

M1 for $8560 \div (10 \times 10)$ oe

A1 for 85.6

- (c) (i) 100.5

2

$$\text{Least length} = 100.5$$

B1 for 100.5

- (ii) 101.5

$$\text{Greatest length} = 101.5$$

B1 for 101.5 or 101.499 or better

[6]

2. C

[1]

1. Mathematics A Paper 3

In part (a), there seemed to be considerable confusion about whether interior or exterior angles sum to 360° . Many of those who worked out $360 \div 5$ then spoilt their method by subtracting the result of this calculation from 180° . Less than 15% of candidates answered part (b) correctly as the majority chose to divide 8560 by 10. Even some of those candidates who divided by 100 did not obtain 85.6. In part (c) candidates had most success with the lower bound. The concept of upper bound was not well understood and the majority of candidates gave a number below 101.5, such as 101.4 or 101.49.

Mathematics B Paper 16

In part (a) many candidates correctly worked out $360/5$ but then subtracted from 180, giving an answer of 108° , showing a lack of understanding of interior and exterior angles of a polygon.

Only a quarter of the candidature gained full marks in this part.

The success in part (b) showed a marked improvement on last year but still only a minority

(16%) dividing by 100; the vast majority dividing by 10 to give 856 cm^2 .

Part (c) 35% correctly identified the least value as 100.5mm, but only 12% gained the mark for the greatest possible length.

2. No Report available for this question.