Oxford Revise | Edexcel GCSE Maths Foundation | Answers

Chapter 18 Interior and exterior angles

Question	Answer	Extra information	Marks
18.1	Pentagon		1
18.2	The sum of the exterior angles of a polygon is $360°$. $360 \div 60 = 6$ The shape is a regular hexagon	$360 \div 60 = 6$ Correct answer	1 1
18.3	Interior angle sum $= (6 - 2) \times 180 = 720°$ $720 - (141 + 159 + 83 + 90 + 147) = 100°$	$(6 - 2) \times 180$ Subtracting the sum of the five angles from 720 Correct answer	1 1 1
18.4	$(8 - 2) \times 180 = 1080°$ $1080 \div 8 = 135°$ (= interior angle in regular octagon) Using angles at a point add to 360: $x = 360 - 60$ (equilateral triangle) $- 135$ (interior angle of octagon) $- 90$ (square) $= 75°$	$(8 - 2) \times 180$ $1080 \div 8 = 135°$ identifying angles of $60°$ and $90°$ Correct final answer	1 1 1 1
18.5	Exterior angle would be $180 - 80 = 100°$ $360 \div 100 = 3.6$ A regular polygon cannot have 3.6 sides, so Sophia is correct.	$180 - 80$ $360 \div 100 = 3.6$ Correct conclusion	1 1 1

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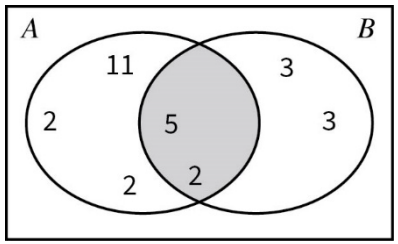
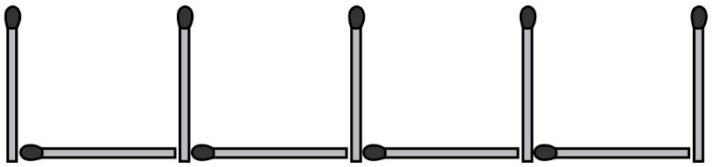
Question	Answer	Extra information	Marks
18.6	Each exterior angle $= 360 \div 5 = 72°$ So, each interior angle $= 180 - 72 = 108°$	Either find the exterior angle and use angles on a straight line add to 180, OR find the sum of interior angles and divide by 5	1 1
18.7 (a)	$x = 360 \div 12 = 30°$	$360 \div 12$ Correct answer	1 1
18.7 (b)	$y = (180 - 30) \div 2 = 75°$	Subtract x from 180 and divide by 2 Correct answer	1 1
18.7 (c)	$z = (180 - 2 \times 75) = 30°$	Subtract twice the size of angle y from 180 Correct answer	1 1
18.8	$n = 1080$ $m = 1440$ $m - n = 1440 - 1080 = 360$	Calculating the value of n Calculating the value of m Correct answer	1 1 1
18.9	Sum of interior angles $= 720°$ Let angle $PQR = x$. Then angle $STU = 2x$ $720 = 152 + x + 82 + 219 + 2x + 90$ $177 = 3x$ $x = 59°$ Angle $STU = 2x = 118°$	 Sum of interior angles $= (6 - 2) \times 180$ Attempt to use $STU = 2 \times PQR$ Form an equation in x Attempt to solve for x Final answer	 1 1 1 1 1

Questions referring to previous content

18.10 (a) and (b)	 HCF $= 2 \times 5 = 10$ LCM $= 2 \times 2 \times 11 \times 2 \times 5 \times 3 \times 3 = 3960$	Venn diagram or alternative method HCF correct LCM correct	1 1 1	
18.11 (a)	 Pattern 4		1	
18.11 (b) (i)	15 matchsticks		1	
18.11 (b) (ii)	$2n+1$	Identifying an increase of 2 per pattern Correct answer	1 1	
18.11 (c)	Darren uses the formula $2n+1$ with $n=100$	Correct explanation	1	

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