Find the Number of Sides when given the Sum of Interior Angles

Maths

Miss Davies

Finding the Number of Sides of a Polygon

1. Calculate the number of sides of the polygons given the sum of interior angles.

a) 1080°   b) 1800°

c) 720°   d) 3960°

e) 15840°   f) 6840°

2. Kris says "I know that there are 540° in a pentagon, so a 50 sided shape must have 5400°".
Is Kris right? Explain your answer.

3. Calculate the size of each interior angle of a regular polygon, given the sum of interior angles.

a) 900°   b) 1260°

c) 2340°   d) 3240°

4. Calculate the exterior angle of a regular polygon, given the sum of interior angles.

a) 540°   b) 1440°

c) 2520°   d) 6120°

Answers

Finding the Number of Sides of a Polygon

1. Calculate the number of sides of the polygons given the sum of interior angles.

a) 1080° **8 sides** b) 1800° **12 sides**

c) 720° **6 sides** d) 3960° **24 sides**

e) 15840° **90 sides** f) 6840° **40 sides**

2. Kris says "I know that there are 540° in a pentagon, so a 50 sided shape must have 5400°".

Is Kris right? Explain your answer.

No, (50 – 2) × 180 = 8640°

3. Calculate the size of each interior angle of a regular polygon, given the sum of interior angles.

a) 900° **128.6°** b) 1260° **140°**

c) 2340° **156°** d) 3240° **162°**

4. Calculate the exterior angle of a regular polygon, given the sum of interior angles.

a) 540° **72°** b) 1440° **36°**

c) 2520° **22.5°** d) 6120° **10°**