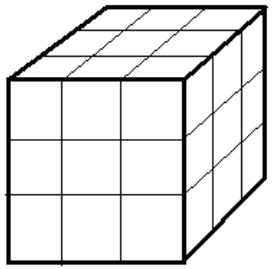
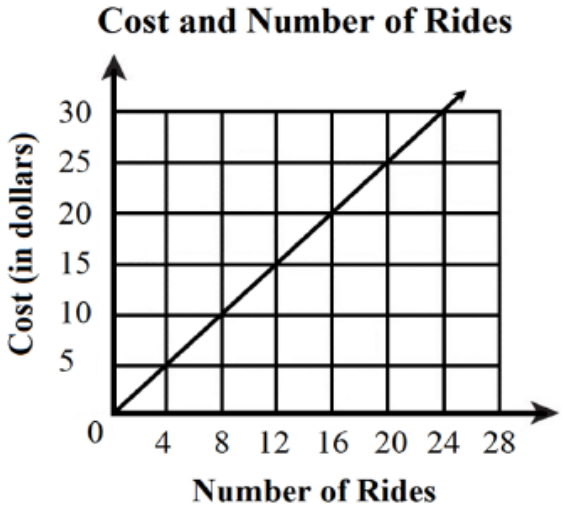
Created by Mr. Lischwe

Warmup 2/(# of cubes in )

Write an exponential function for the chart.

x	$f(x)$
0	5
1	45
2	405
3	3645

$f(x) = 5 \cdot 9^x$



a. What is the slope?

$\frac{5}{4}$

b. What does it mean in this situation?

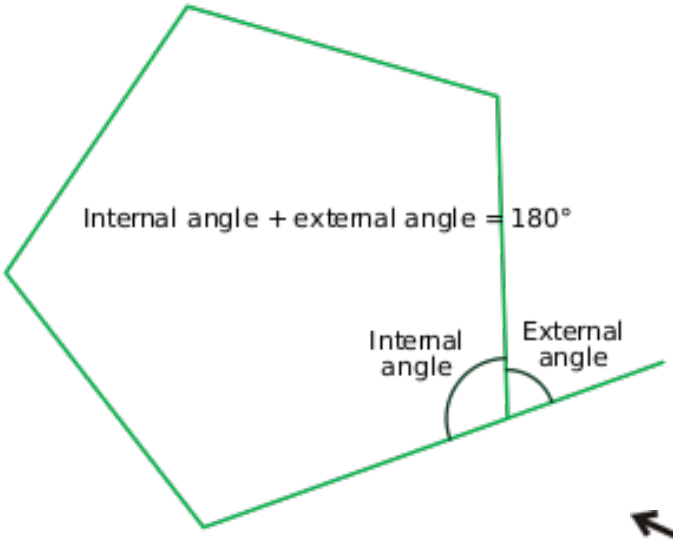
Every 4 rides costs $5.

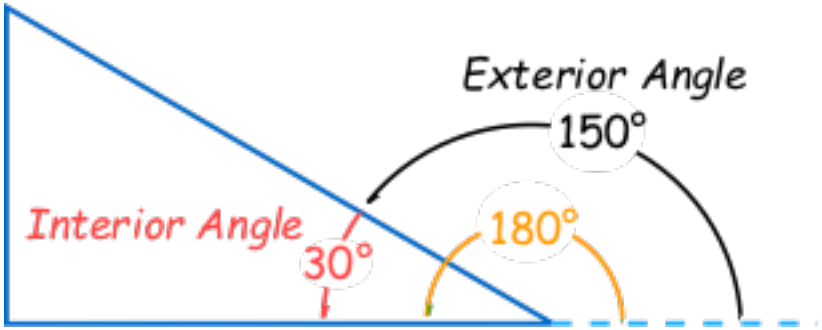
or Each ride costs $\$\frac{5}{4}$ or $1.25.

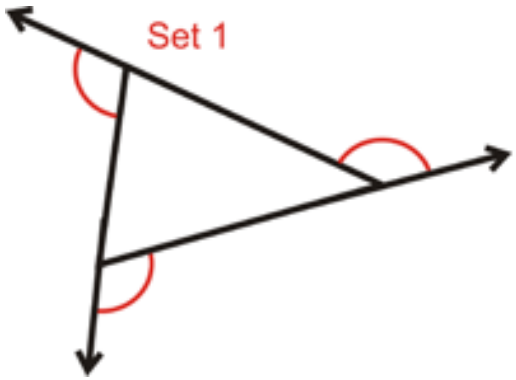
Go over homework

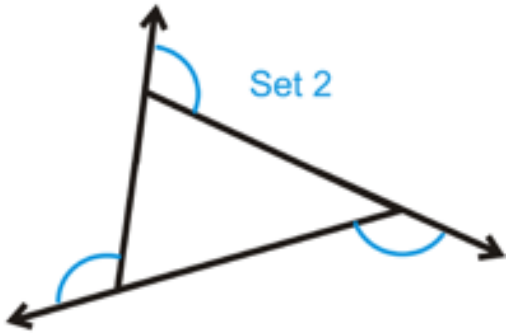
Exterior Angles

If you extend a side of a polygon OUTSIDE the shape, you get an <u>exterior angle</u>.

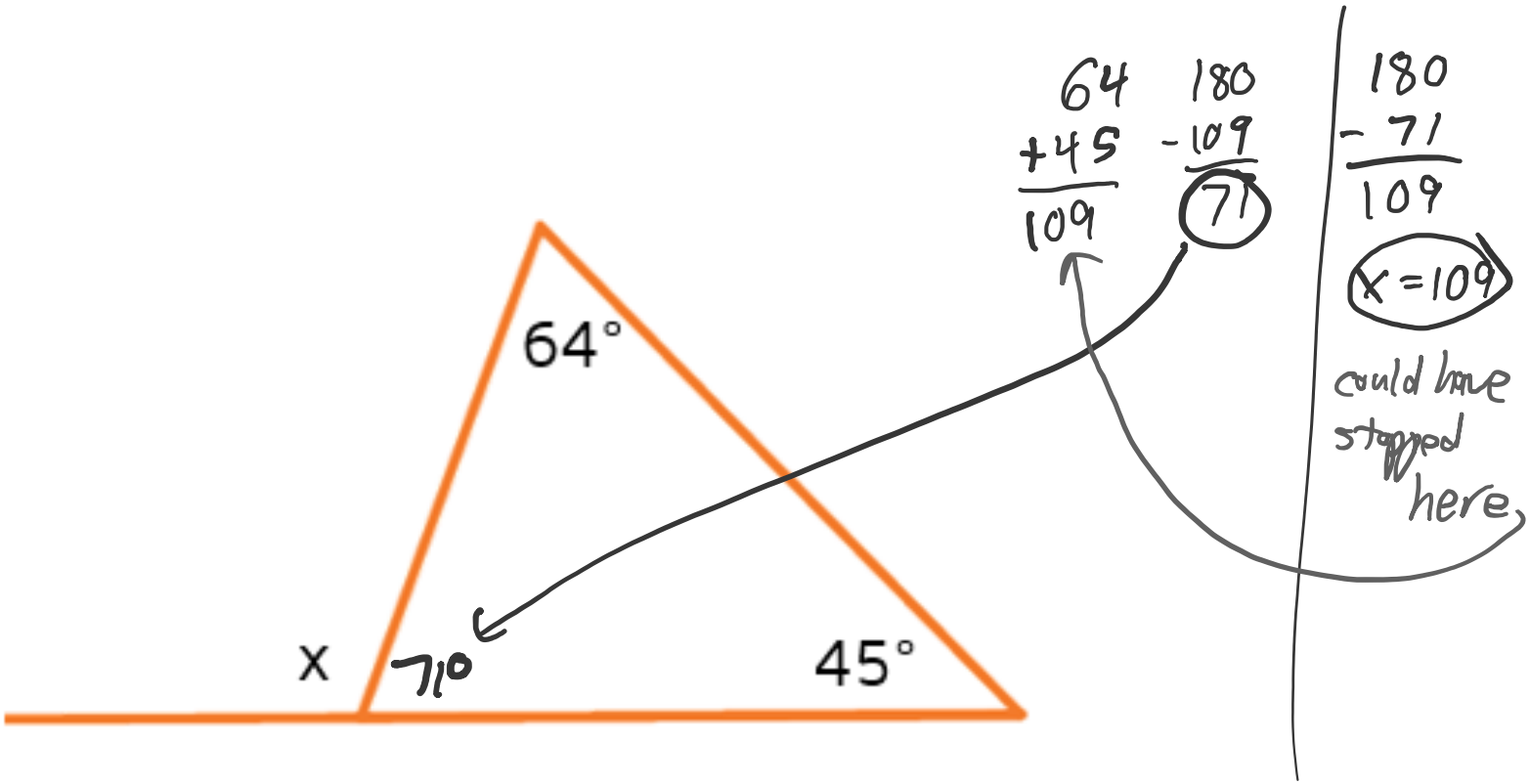




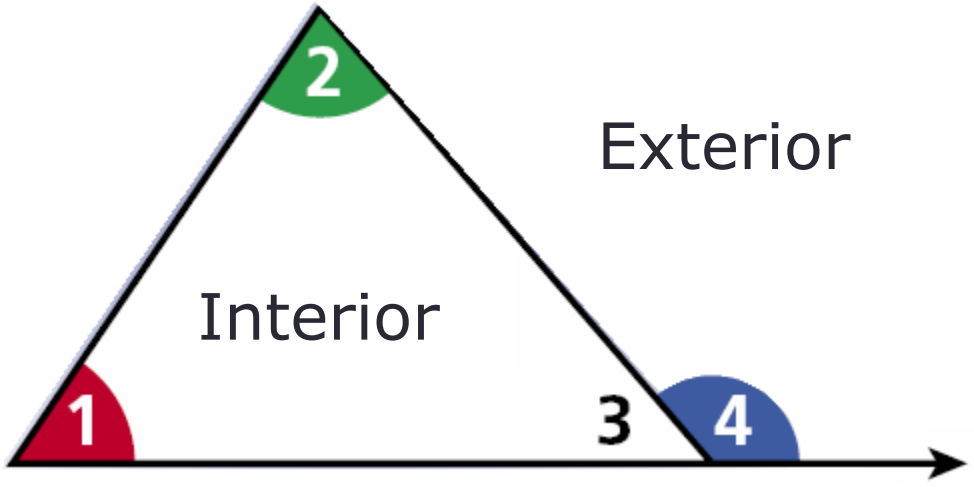




What is the measure of the exterior angle?

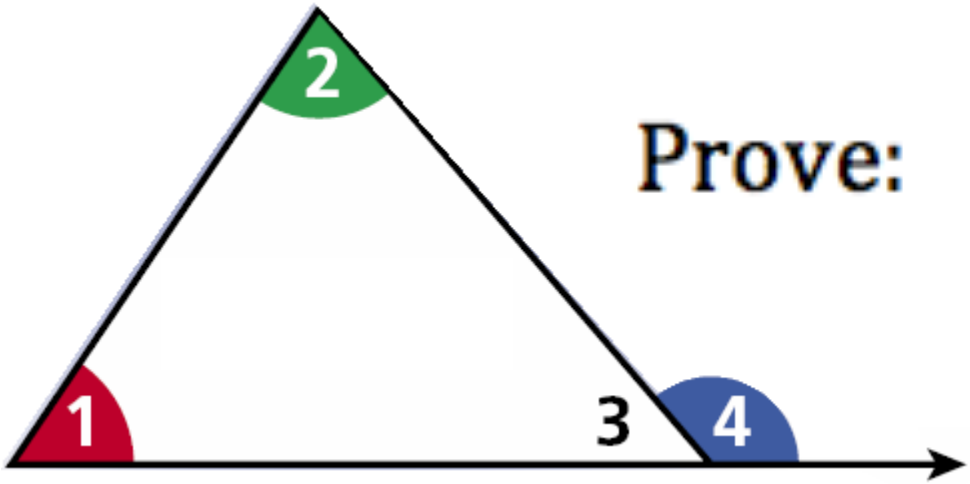


What is the relationship between angle 4 and angles 1 and 2?



$m\angle 1 + m\angle 2 = m\angle 4$

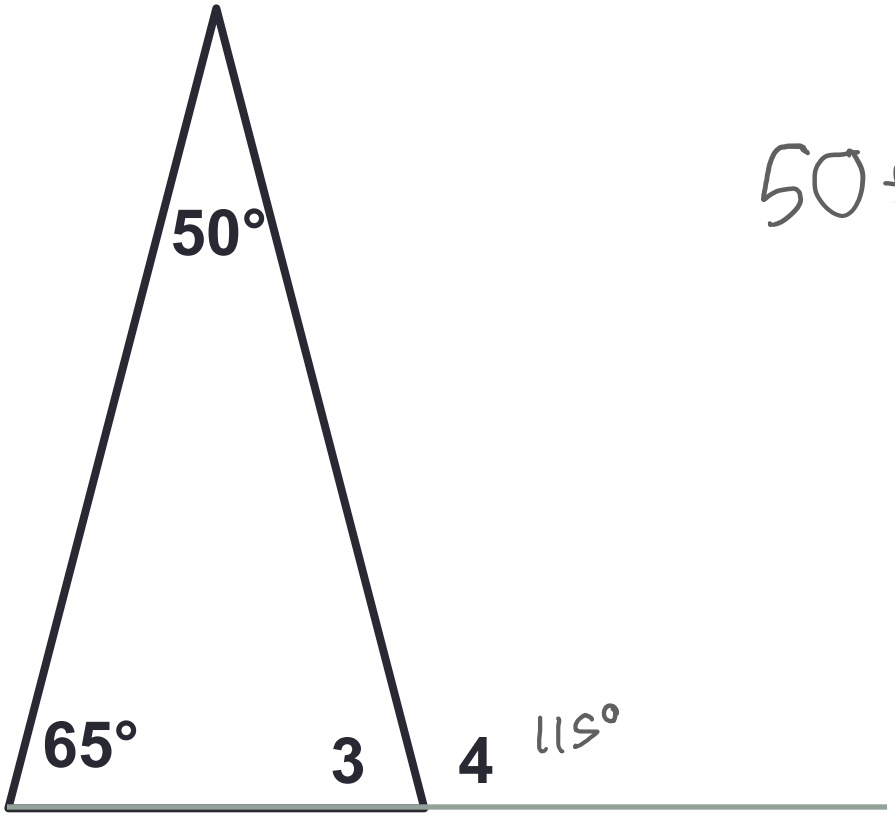
Write a Paragraph Proof!



Prove: $m\angle 1 + m\angle 2 = m\angle 4$

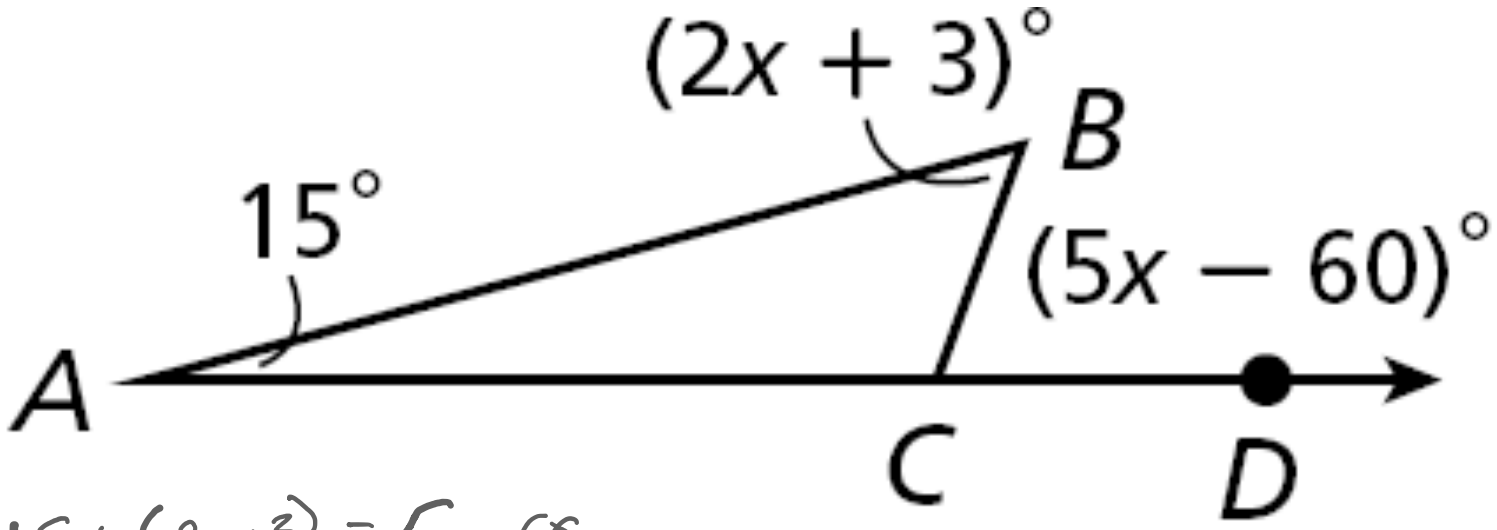
$m\angle 1+m\angle 2+m\angle 3=180°$ by the Triangle Sum Theorem.
$m\angle 3+m\angle 4=180°$ by the definition of a straight angle.
So by substitution, $m\angle 1+m\angle 2+m\angle 3=m\angle 3+m\angle 4$. The subtraction property of equality lets us subtract $m\angle 3$ from both sides, so $m\angle 1+m\angle 2=m\angle 4$. □

Find $m\angle 4$



$50+65=115°$

Find m∠B



$15 + (2x+3) = 5x - 60$

$2x + 18 = 5x - 60$

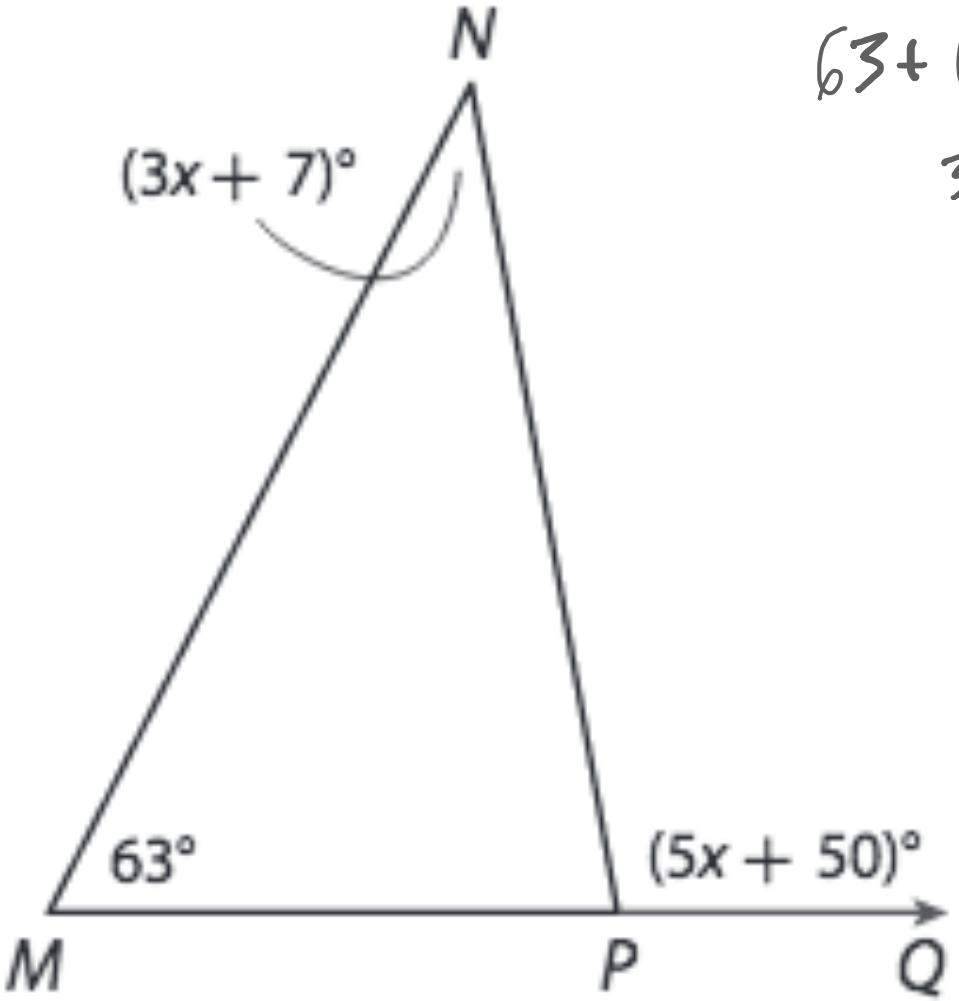
$18 = 3x - 60$

$78 = 3x$

$26 = x$

$m\angle B = 2 \cdot 26 + 3 = 52 + 3 = \boxed{55°}$

11. Determine $m\angle N$ in $\triangle MNP$.



$63 + (3x+7) = 5x+50$

$3x+70 = 5x+50$

$70 = 2x+50$

$20 = 2x$

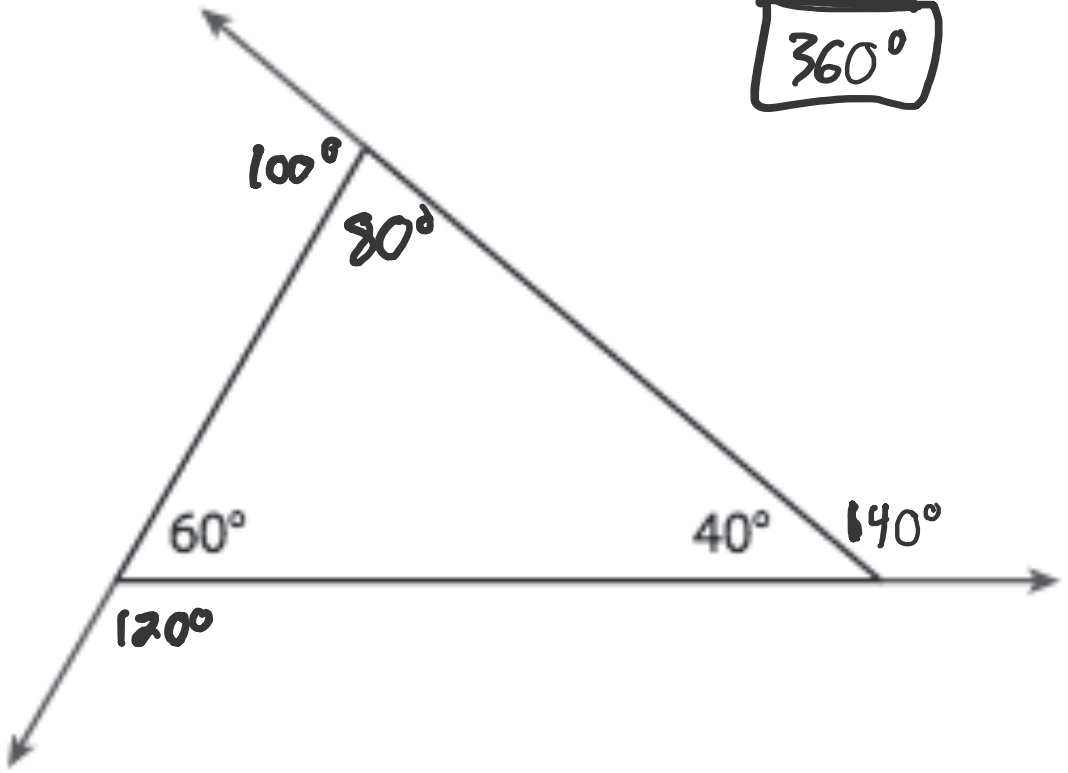
$10 = x$

$m\angle N = 3 \cdot 10 + 7$

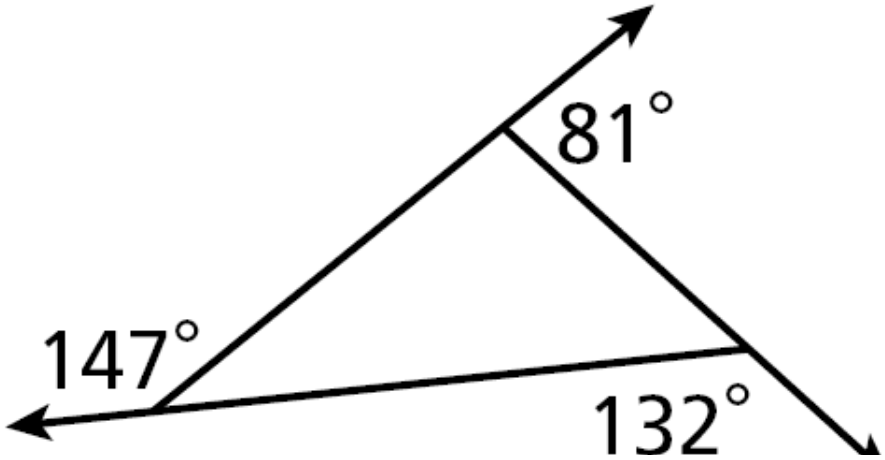
$m\angle N = 37°$

Find the measure of all exterior angles. What is their sum?

100
120
140
360°

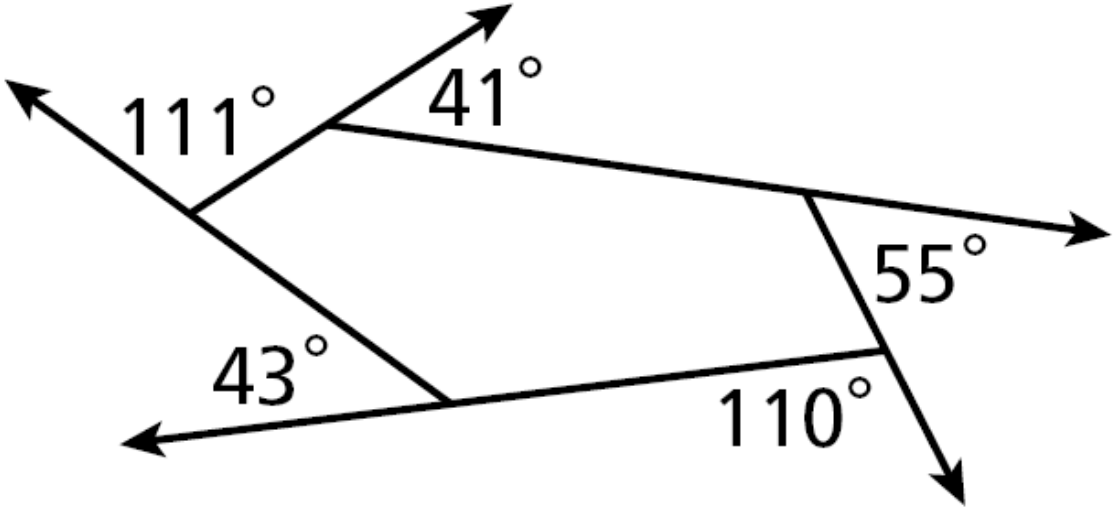


Find the measure of all exterior angles. What is their sum?



11
147
81
132
360

360°



11
111
41
55
110
43
360

360°

http://www.mathsisfun.com/geometry/exterior-angles-polygons.html

Polygon Exterior Angles Theorem

The sum of the exterior angles of any polygon is 360°.

Find the measure of each exterior angle of a regular 20-gon.

Long way

20-sides
↓
18 triangles

Int. Angle Sum = $18 \cdot 180$
$= 3240°$.

Each interior angle = $\frac{3240}{20} = 162°$

Each exterior angle = $180° - 162° = \boxed{18°}$

Short way

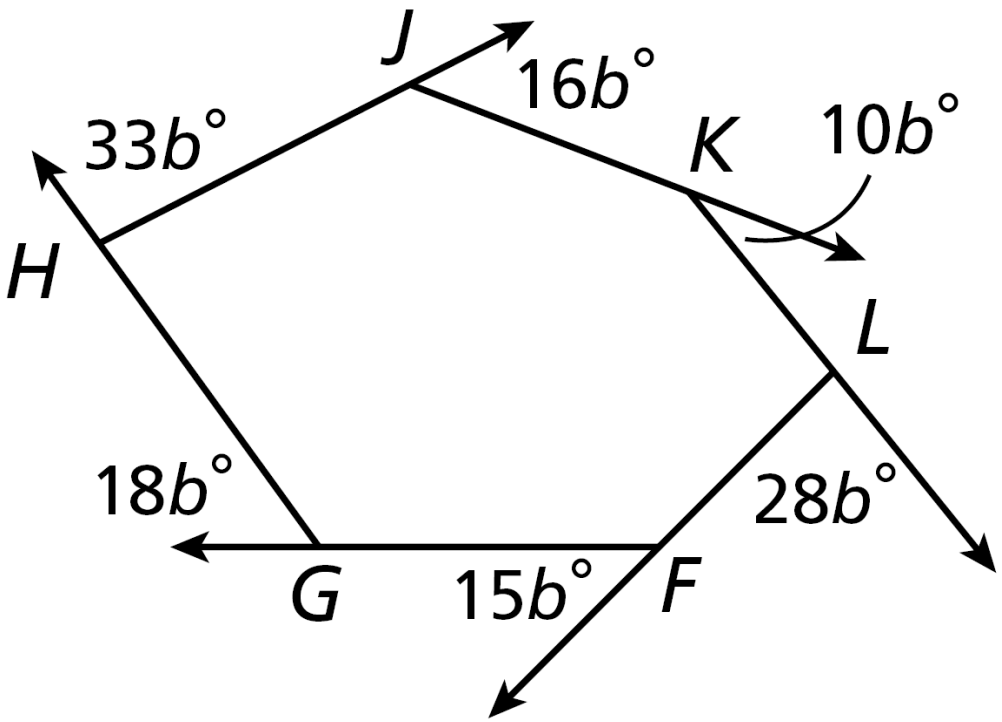
$\frac{360°}{20} = \boxed{18°}$

$33b + 16b + 10b + 28b + 15b + 18b = 360°$

$120b = 360°$

$b = 3$

Find the value of *b* in polygon *FGHJKL*.



Homework

- p. 1091-1092 (10-15) + Angle Chasing Worksheet