

Name: _____ Date: _____

What did the Mama Lion say when she saw her cub chasing a hunter around a tree?

To find out, figure out the degree measure of each lettered angle and arc in the circles below. Then place the corresponding letter above each number.

H O W M A N Y T I M E S H A V E
 203 66 19 60 37.5 76 129 107 135 60 25 51 203 37.5 100 25

I T O L D Y O U N O T T O
 135 107 66 105 35 129 66 48 76 66 107 107 66

P L A Y W I T H Y O U R F O O D
 170 105 37.5 129 19 135 107 203 129 66 48 81 96 66 66 35

Diagram 1: Circle with inscribed triangle. Angle A° at vertex, 75° arc. Solution: $A = \frac{75}{2}$, $A = 37.5$.

Diagram 2: Circle with inscribed triangle. Angle 85° at vertex, P° at center, $85 = \frac{P}{2}$. Solution: $P = 170$.

Diagram 3: Circle with tangent and secant. Angle M° at vertex, 240° arc, 120 arc. Solution: $M = \frac{120}{2}$, $M = 60$.

Diagram 4: Circle with center I . Angle 135° at center. Solution: $I = 135$.

Diagram 5: Circle with center F . Angle 96° at center. Solution: $F = 96$.

Diagram 6: Circle with inscribed triangle. Angle D° at vertex, 70° at center, 70 arc. Solution: $D = \frac{70}{2}$, $D = 35$.

Diagram 7: Circle with inscribed quadrilateral. Angle 80° at vertex, V° at vertex. Solution: $V + 80 = 180$, $V = 100$.

Diagram 8: Circle with center L . Angle 50° at center, 160° arc. Solution: $L = \frac{50 + 160}{2}$, $L = 105$.

Diagram 9: Circle with center S . Angle 54° at center, 48° arc, y° at center. Solution: $S = \frac{54 + 48}{2}$, $S = 51$; $y + 51 = 180$, $y = 129$.

Diagram 10: Circle with center H . Angle 105° at center, 154° arc, $154 = \frac{H + 105}{2}$. Solution: $H = 203$.

Diagram 11: Circle with center U . Angle 36° at center, 132° arc, U° at vertex. Solution: $U = \frac{132 - 36}{2}$, $U = 48$.

Diagram 12: Circle with center E . Angle 150° at center, 100° arc, 50 arc, E° at vertex. Solution: $E = \frac{100 - 50}{2}$, $E = 25$.

Diagram 13: Circle with center T . Angle 30° at vertex, 47° arc, T° at center. Solution: $T = 107$; $30 = \frac{T - 47}{2}$.

Diagram 14: Circle with center N . Angle 142° at center, 38 arc, N° at vertex. Solution: $38 = \frac{N}{2}$, $N = 76$.

Diagram 15: Circle with center R . Angle 38° at vertex, 162° arc, R° at center, W° at vertex. Solution: $R = \frac{162}{2}$, $R = 81$; $W = \frac{38}{2}$, $W = 19$.

Diagram 16: Circle with center O . Angle 114° at center, 66° arc, O° at center. Solution: $O = 66$.