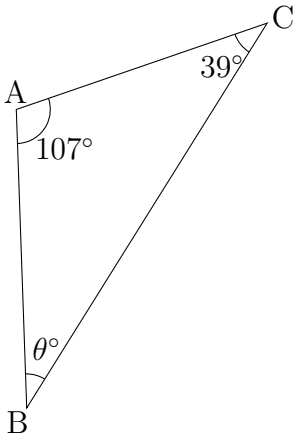
Name: _____ **Date:** _____

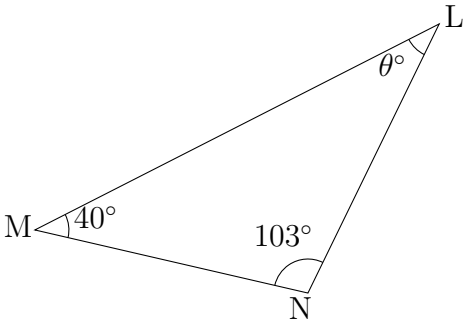
Angles in a Triangle: Answers

(1)



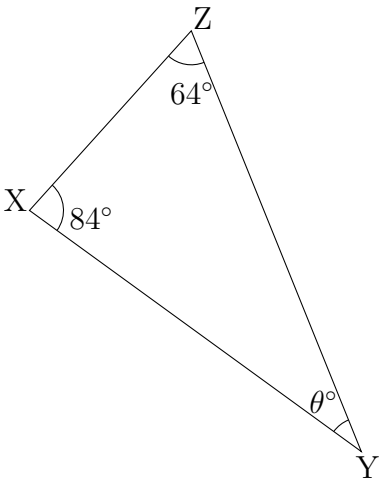
$$\begin{aligned}\angle B &= 180^\circ - (\angle C + \angle A)\\ &= 180^\circ - (39^\circ + 107^\circ)\\ &= 180^\circ - 146^\circ\\ &= 34^\circ\end{aligned}$$

(2)



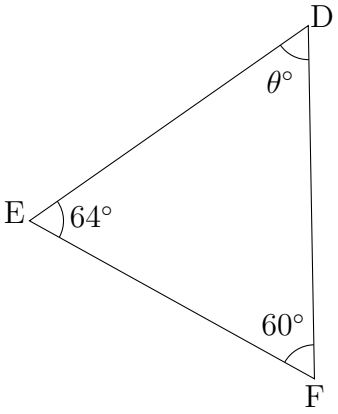
$$\begin{aligned}\angle L &= 180^\circ - (\angle M + \angle N)\\ &= 180^\circ - (40^\circ + 103^\circ)\\ &= 180^\circ - 143^\circ\\ &= 37^\circ\end{aligned}$$

(3)



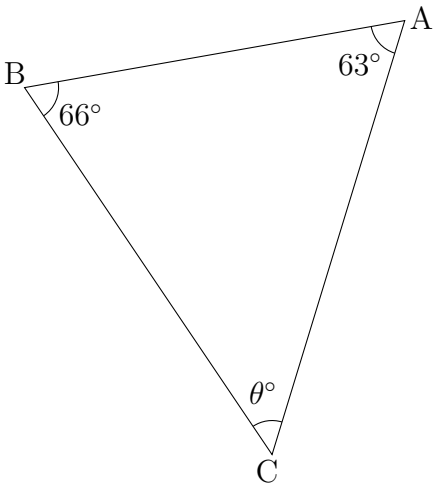
$$\begin{aligned}\angle Y &= 180^\circ - (\angle Z + \angle X)\\ &= 180^\circ - (64^\circ + 84^\circ)\\ &= 180^\circ - 148^\circ\\ &= 32^\circ\end{aligned}$$

(4)



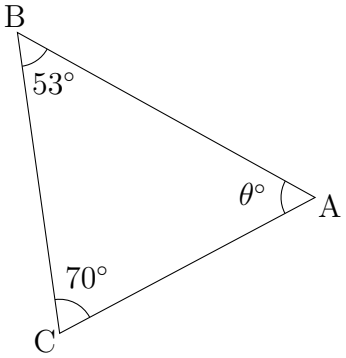
$$\begin{aligned}\angle \mathrm{D} &= 180^\circ - (\angle \mathrm{E} + \angle \mathrm{F}) \\ &= 180^\circ - (64^\circ + 60^\circ) \\ &= 180^\circ - 124^\circ \\ &= 56^\circ\end{aligned}$$

(5)



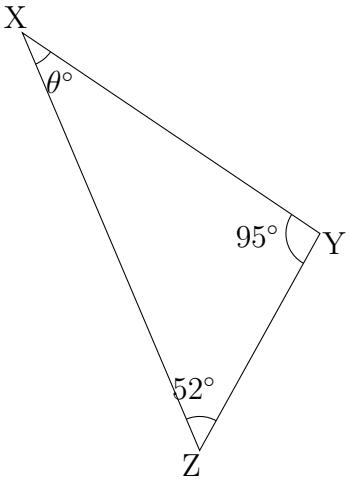
$$\begin{aligned}\angle \mathrm{C} &= 180^\circ - (\angle \mathrm{A} + \angle \mathrm{B}) \\ &= 180^\circ - (63^\circ + 66^\circ) \\ &= 180^\circ - 129^\circ \\ &= 51^\circ\end{aligned}$$

(6)



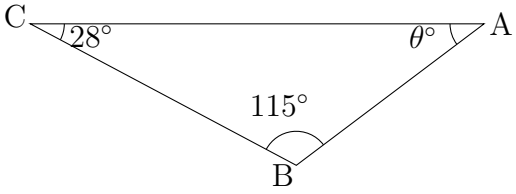
$$\begin{aligned}\angle \mathrm{A} &= 180^\circ - (\angle \mathrm{B} + \angle \mathrm{C}) \\ &= 180^\circ - (53^\circ + 70^\circ) \\ &= 180^\circ - 123^\circ \\ &= 57^\circ\end{aligned}$$

(7)



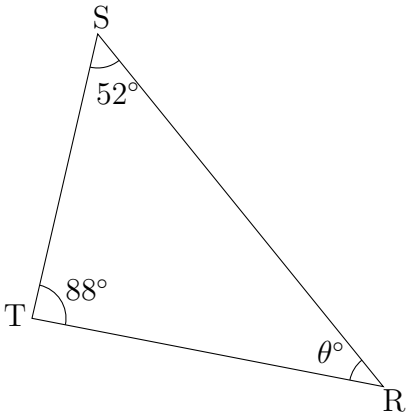
$$\begin{aligned}\angle \mathrm{X} &= 180^\circ - (\angle \mathrm{Z} + \angle \mathrm{Y}) \\ &= 180^\circ - (52^\circ + 95^\circ) \\ &= 180^\circ - 147^\circ \\ &= 33^\circ\end{aligned}$$

(8)



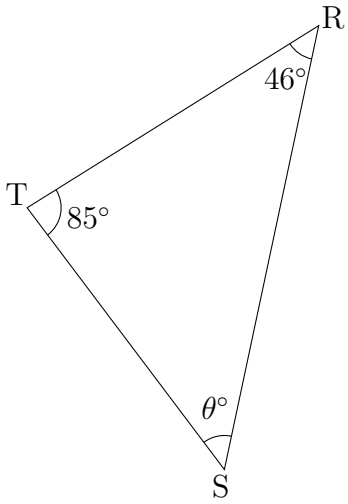
$$\begin{aligned}\angle A &= 180^\circ - (\angle C + \angle B)\\ &= 180^\circ - (28^\circ + 115^\circ)\\ &= 180^\circ - 143^\circ\\ &= 37^\circ\end{aligned}$$

(9)



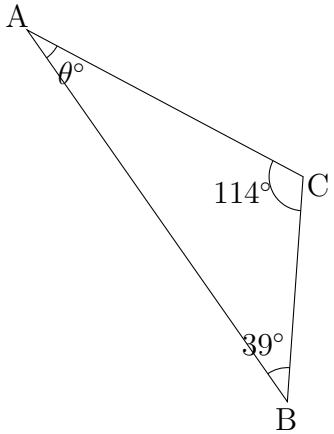
$$\begin{aligned}\angle R &= 180^\circ - (\angle S + \angle T)\\ &= 180^\circ - (52^\circ + 88^\circ)\\ &= 180^\circ - 140^\circ\\ &= 40^\circ\end{aligned}$$

(10)



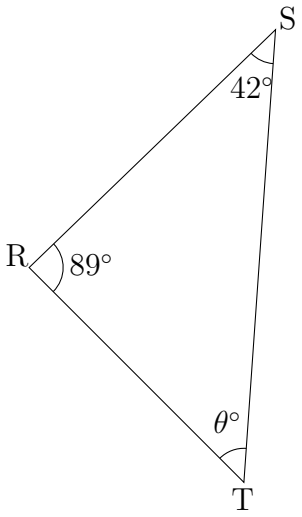
$$\begin{aligned}\angle S &= 180^\circ - (\angle R + \angle T)\\ &= 180^\circ - (46^\circ + 85^\circ)\\ &= 180^\circ - 131^\circ\\ &= 49^\circ\end{aligned}$$

(11)



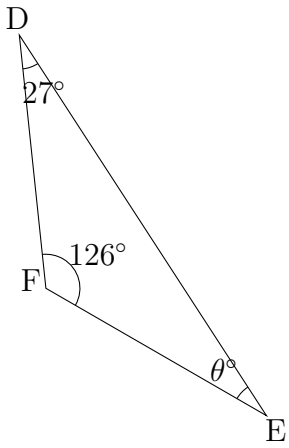
$$\begin{aligned}\angle A &= 180^\circ - (\angle B + \angle C)\\ &= 180^\circ - (39^\circ + 114^\circ)\\ &= 180^\circ - 153^\circ\\ &= 27^\circ\end{aligned}$$

(12)



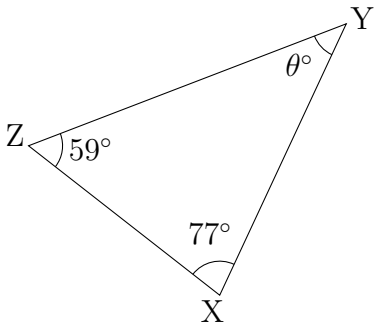
$$\begin{aligned}\angle \mathrm{T} &= 180^\circ - (\angle \mathrm{S} + \angle \mathrm{R}) \\ &= 180^\circ - (42^\circ + 89^\circ) \\ &= 180^\circ - 131^\circ \\ &= 49^\circ\end{aligned}$$

(13)



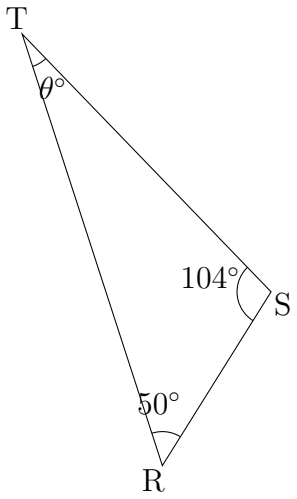
$$\begin{aligned}\angle \mathrm{E} &= 180^\circ - (\angle \mathrm{D} + \angle \mathrm{F}) \\ &= 180^\circ - (27^\circ + 126^\circ) \\ &= 180^\circ - 153^\circ \\ &= 27^\circ\end{aligned}$$

(14)



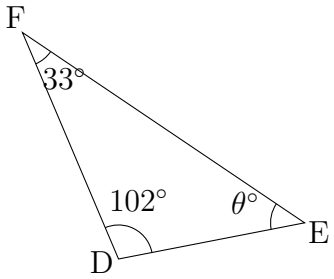
$$\begin{aligned}\angle \mathrm{Y} &= 180^\circ - (\angle \mathrm{Z} + \angle \mathrm{X}) \\ &= 180^\circ - (59^\circ + 77^\circ) \\ &= 180^\circ - 136^\circ \\ &= 44^\circ\end{aligned}$$

(15)



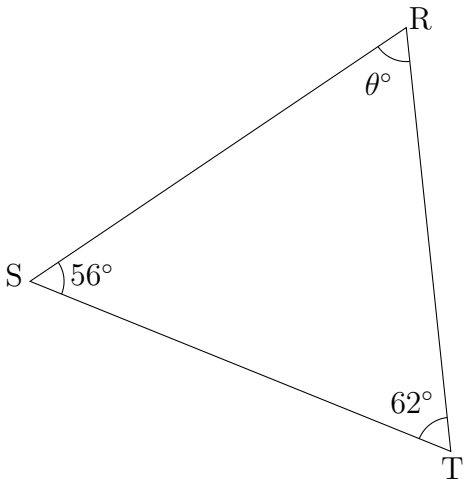
$$\begin{aligned}\angle \mathrm{T} &= 180^\circ - (\angle \mathrm{R} + \angle \mathrm{S}) \\ &= 180^\circ - (50^\circ + 104^\circ) \\ &= 180^\circ - 154^\circ \\ &= 26^\circ\end{aligned}$$

(16)



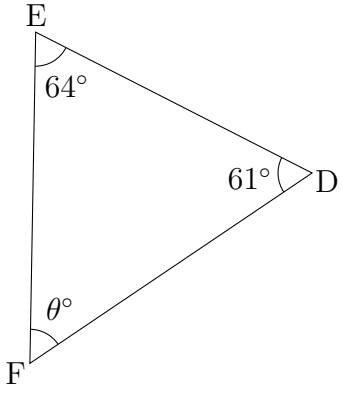
$$\begin{aligned}\angle \mathrm{E} &= 180^\circ - (\angle \mathrm{F} + \angle \mathrm{D}) \\ &= 180^\circ - (33^\circ + 102^\circ) \\ &= 180^\circ - 135^\circ \\ &= 45^\circ\end{aligned}$$

(17)



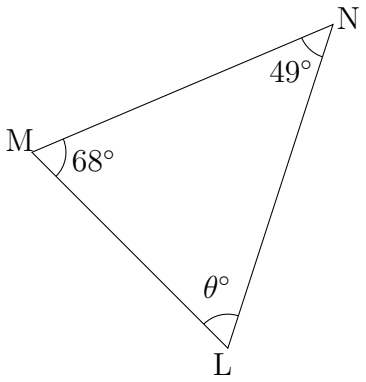
$$\begin{aligned}\angle \mathrm{R} &= 180^\circ - (\angle \mathrm{S} + \angle \mathrm{T}) \\ &= 180^\circ - (56^\circ + 62^\circ) \\ &= 180^\circ - 118^\circ \\ &= 62^\circ\end{aligned}$$

(18)



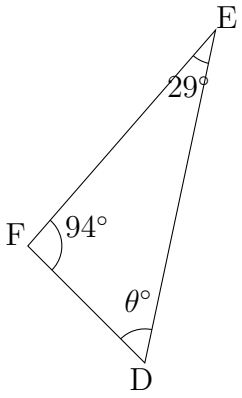
$$\begin{aligned}\angle \mathrm{F} &= 180^\circ - (\angle \mathrm{D} + \angle \mathrm{E}) \\ &= 180^\circ - (61^\circ + 64^\circ) \\ &= 180^\circ - 125^\circ \\ &= 55^\circ\end{aligned}$$

(19)



$$\begin{aligned}\angle \mathrm{L} &= 180^\circ - (\angle \mathrm{N} + \angle \mathrm{M}) \\ &= 180^\circ - (49^\circ + 68^\circ) \\ &= 180^\circ - 117^\circ \\ &= 63^\circ\end{aligned}$$

(20)



$$\begin{aligned}\angle \mathrm{D} &= 180^\circ - (\angle \mathrm{E} + \angle \mathrm{F}) \\ &= 180^\circ - (29^\circ + 94^\circ) \\ &= 180^\circ - 123^\circ \\ &= 57^\circ\end{aligned}$$