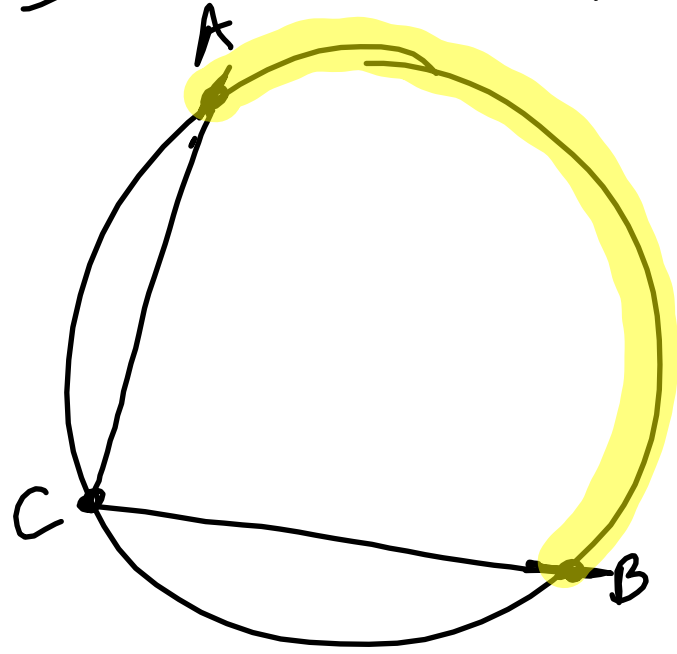
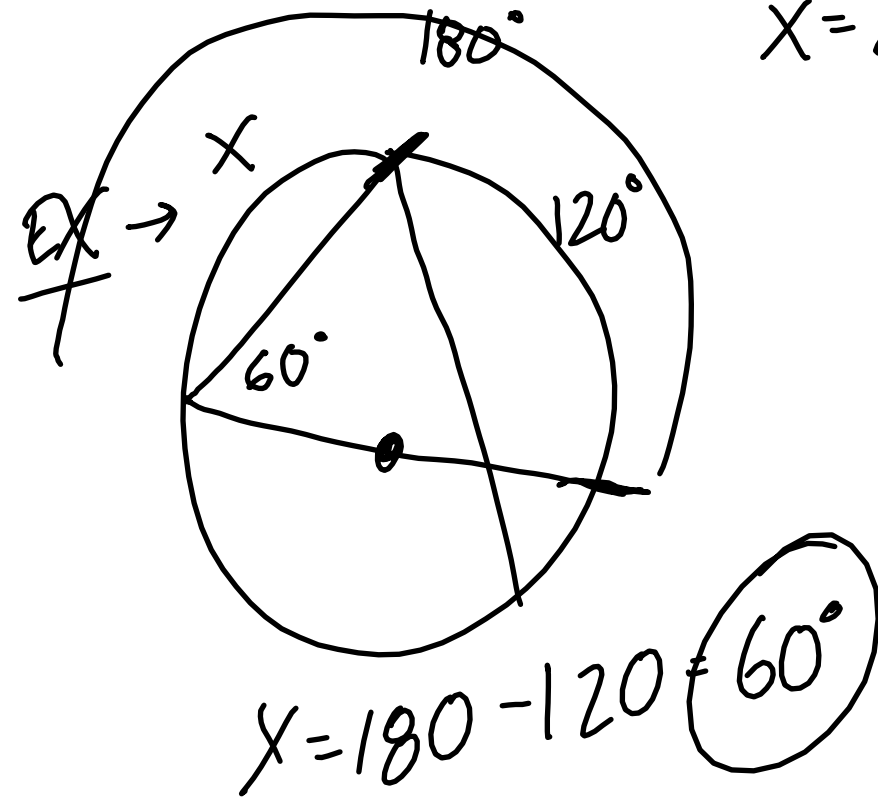
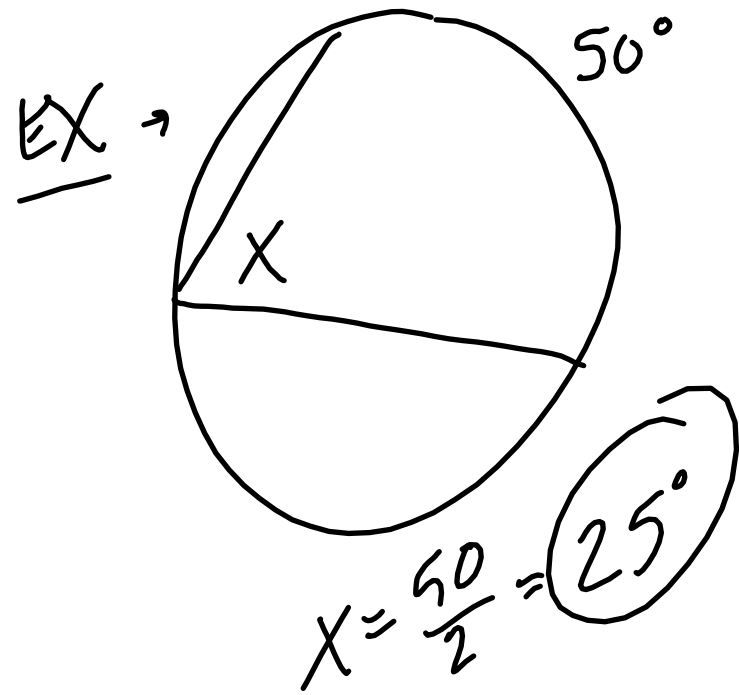
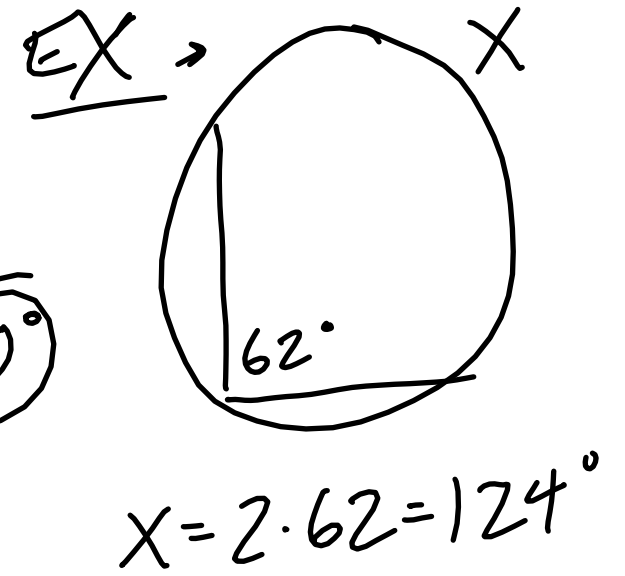
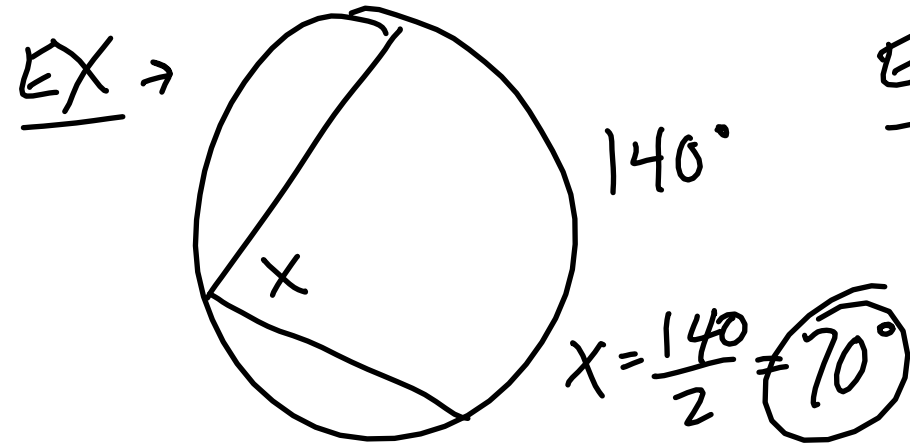


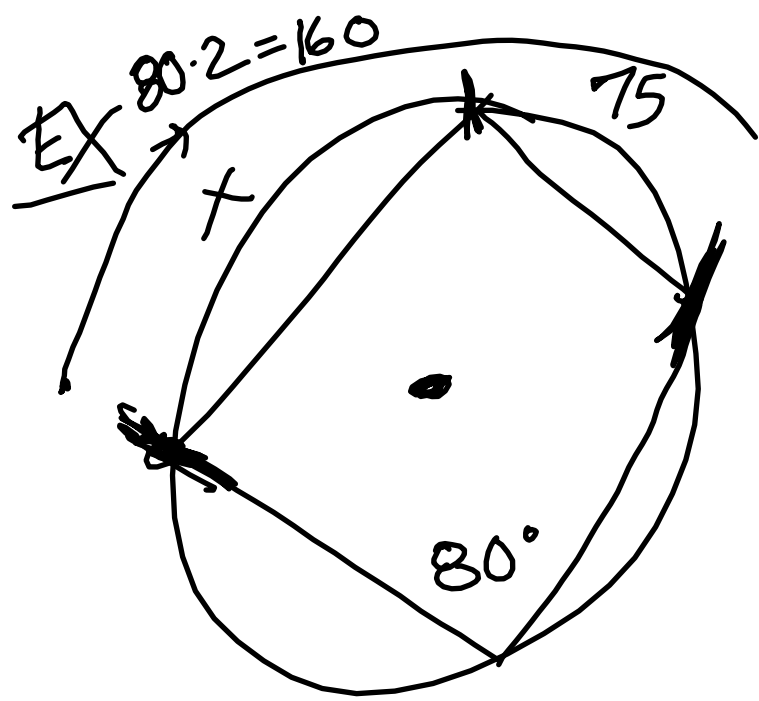
# Angles in Circles

## Inscribed Angles



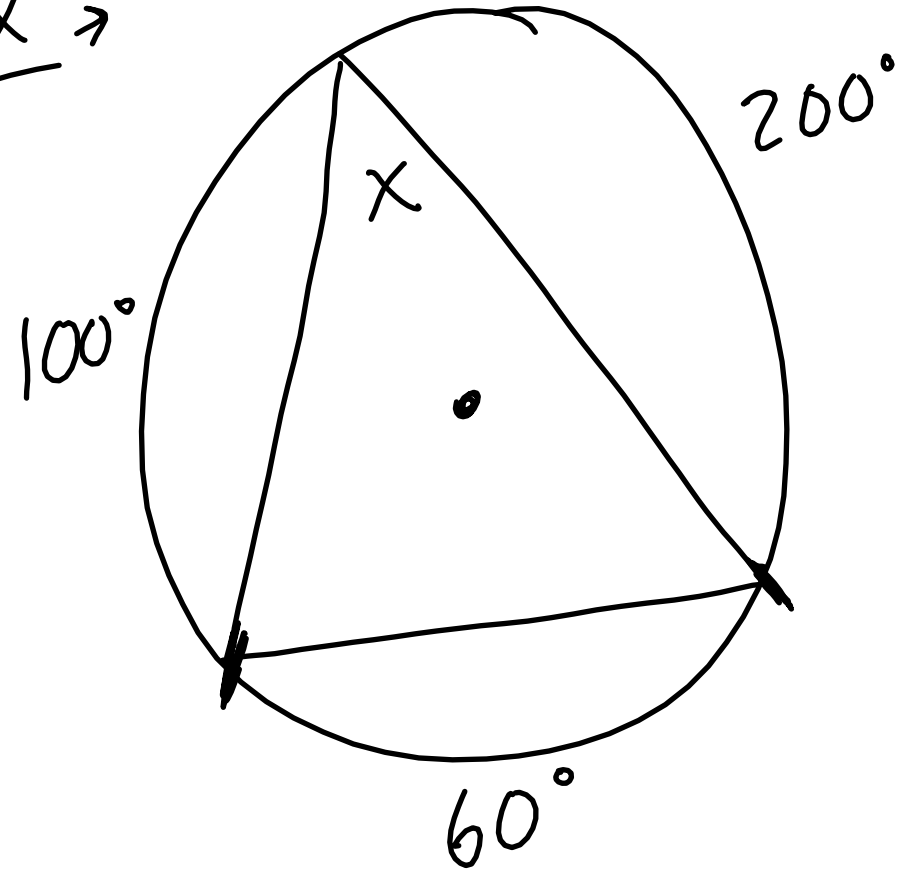
$$m\widehat{AB} = 2 \cdot m\angle C$$





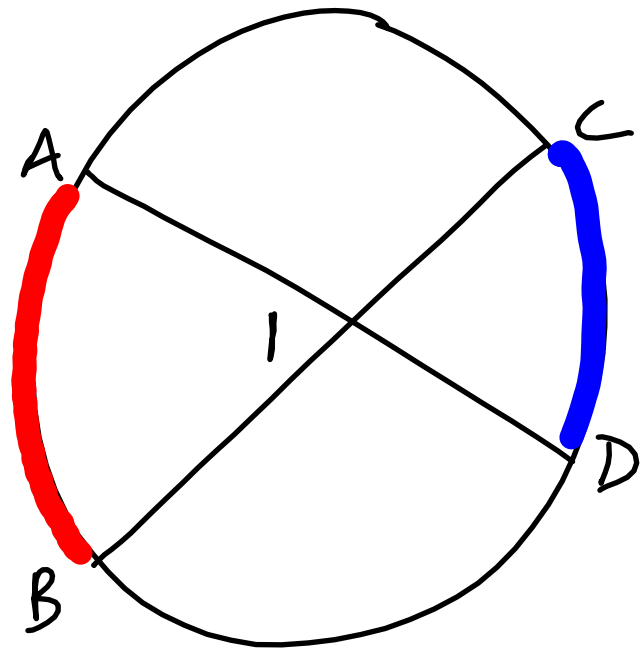
$$X = 160 - 75 = 85$$

EX →

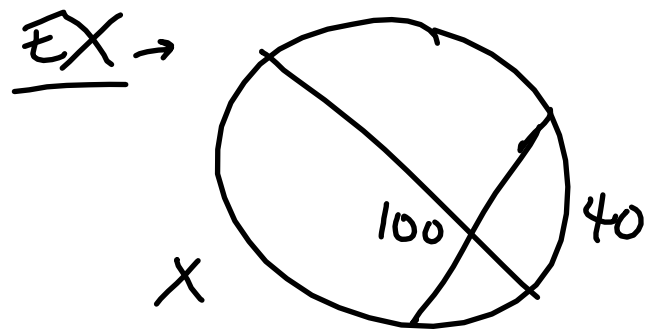


$$X = \frac{60}{2} = 30^\circ$$

# Intersecting Inside Circle



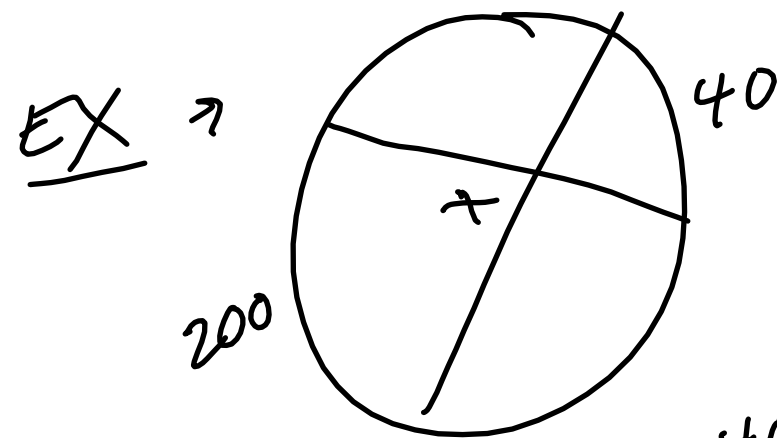
$$m\angle I = \frac{1}{2}(m\widehat{AB} + m\widehat{CD})$$



$$2 \cdot 100 = \frac{1}{2}(x + 40) \cdot 2$$

$$200 = x + 40$$

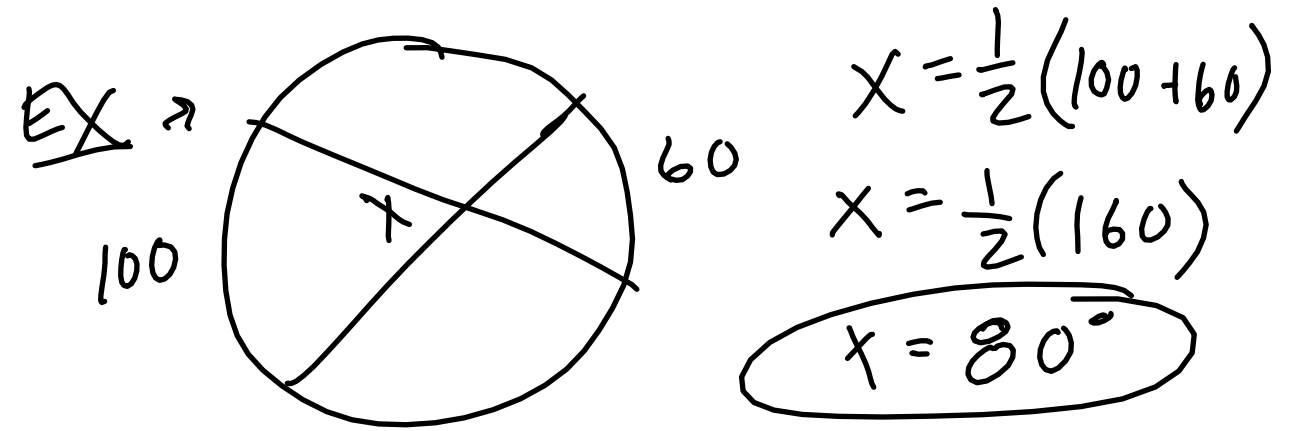
$$x = 160^\circ$$



$$x = \frac{1}{2}(200 + 40)$$

$$x = \frac{1}{2}(240)$$

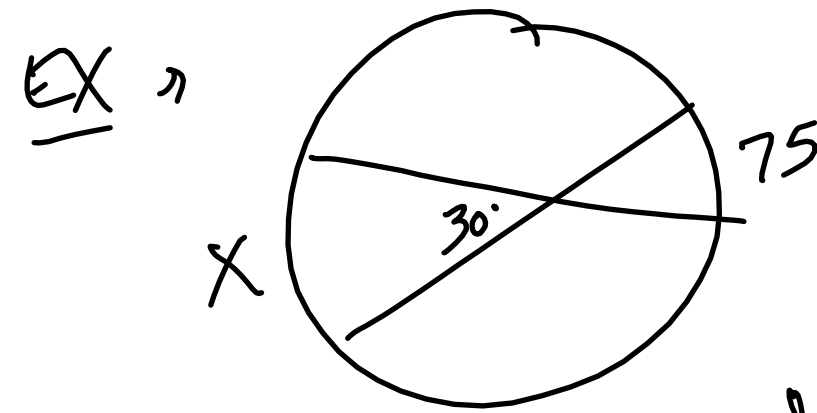
$$x = 120^\circ$$



$$x = \frac{1}{2}(100 + 60)$$

$$x = \frac{1}{2}(160)$$

$$x = 80^\circ$$

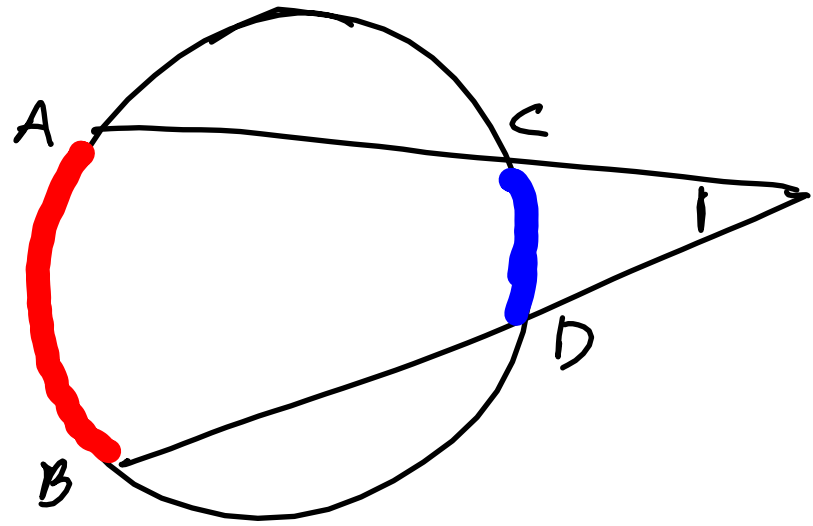


$$2 \cdot 30 = \frac{1}{2}(x + 75) \cdot 2$$

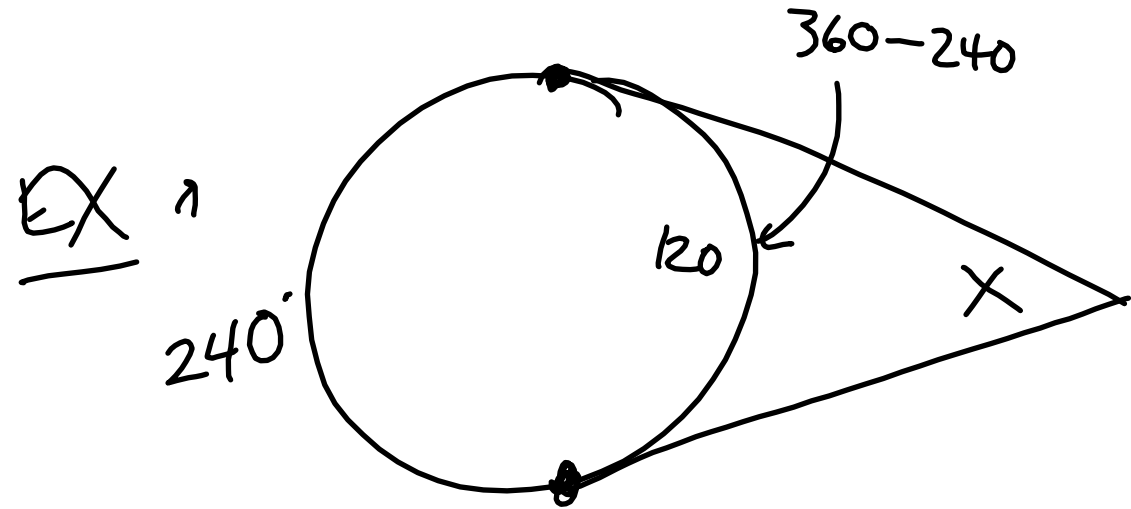
$$60 = x + 75$$

$$x = -15$$

# Intersecting Outside Circle



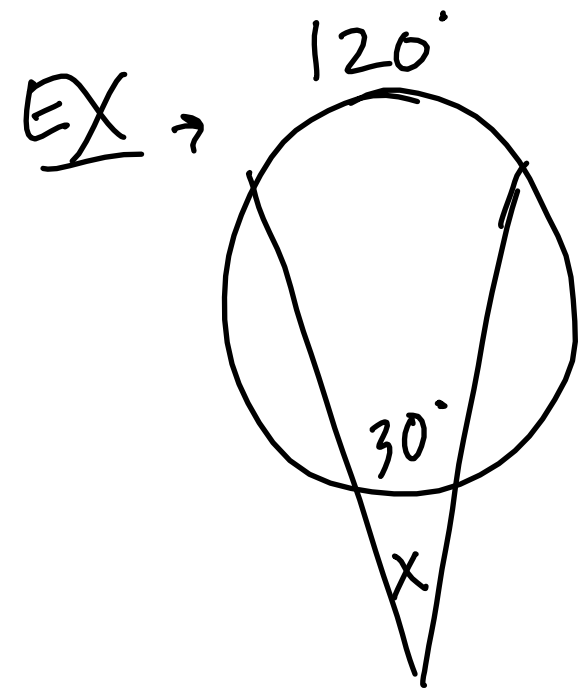
$$m\angle I = \frac{1}{2} (m\widehat{AB} - m\widehat{CD})$$



$$X = \frac{1}{2} (240 - 120)$$

$$X = \frac{1}{2} (120)$$

$$X = 60^\circ$$

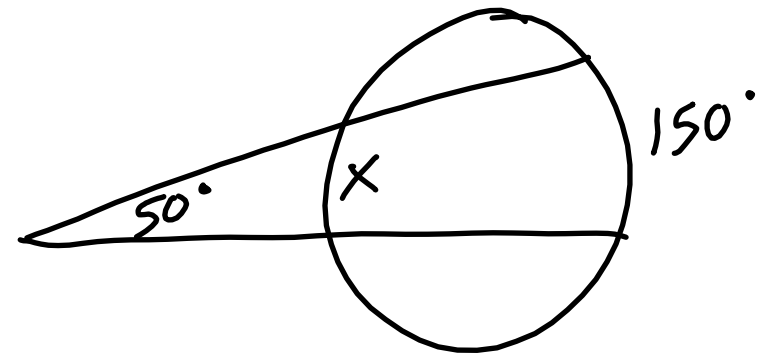


$$X = \frac{1}{2} (120 - 30)$$

$$X = \frac{1}{2} (90)$$

$$X = 45^\circ$$

EX →



$$2 \cdot 50 = \frac{1}{2} (150 - X)$$

$$100 = 150 - X$$

$$-50 = -X$$

$$X = 50^\circ$$