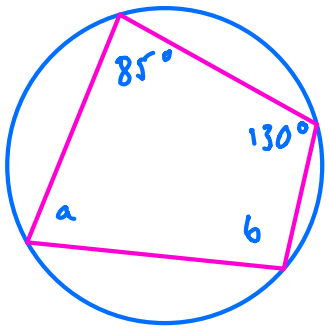
Cyclic Quadrilaterals

1a

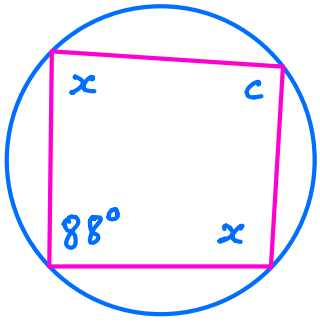


$a = 50°$

(opp ∠s of cyclic quad add to 180°)

$b = 95°$

1b



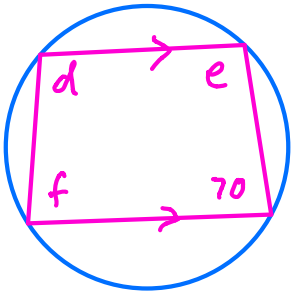
$c = 92°$

(opp ∠s of cyclic quad add to 180°)

$x = 90°$

(opp ∠s of cyclic quad add to 180°)

1c



$d = 110°$

(opp ∠s of cyclic quad add to 180°)

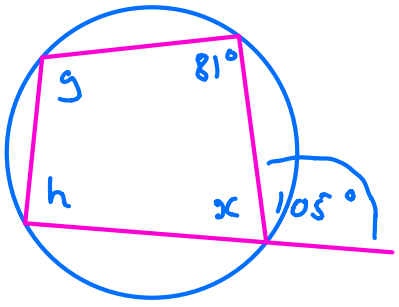
$e = 110°$

(e and 70° are allied angles which add up to 180°)

$f = 70°$

(opp ∠s of cyclic quad add to 180°)

1d



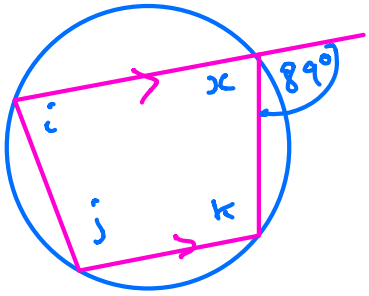
$h = 99°$

(opp ∠s of cyclic quad add to 180°)

$x = 75°$ (∠s on a straight line)

$g = 105°$ (opp ∠s of cyclic quad)

1e



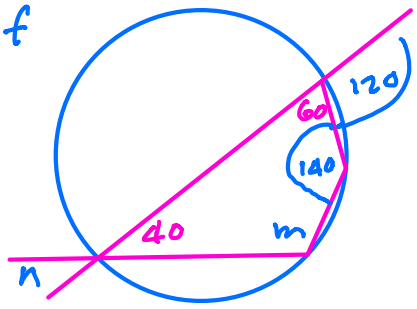
$x = 91°$ (∠s on str line)

$j = 89°$ (opp ∠s of cyclic quad)

$k = 89°$ (alt ∠s)

$i = 91°$ (opp ∠s of cyclic quad)

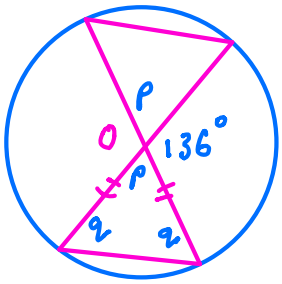
1f



$n = 40°$ (vert opp ∠s)

$m = 120°$ (opp ∠s of cyclic quad)

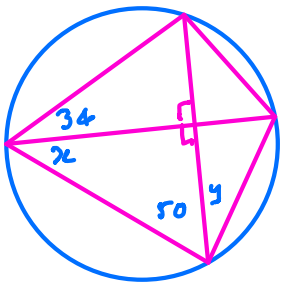
1g



$p = 44°$ (∠s on a str line)

$q = \dfrac{180 - 44}{2} = 68°$

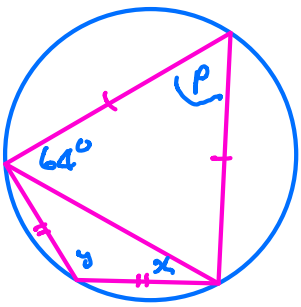
1h



$x = 40°$ (∠ sum of Δ)

$x = 34°$ (∠s in same segment)

2a



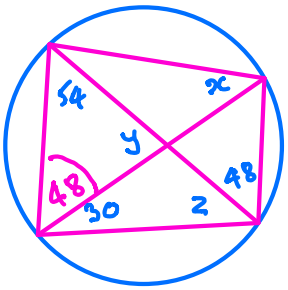
$p = 180 - (64 + 64) = 52°$ (isos Δ)

$y = 180 - p = 180 - 52 = 128°$

(opp ∠s of cyclic quad)

$x = \dfrac{180 - 128}{2} = 26°$ (isos Δ)

2b



$y = 180 - (54 + 48) = 78^\circ$

$z = 180 - (54 + 78) = 48^\circ$

$x = 48^\circ$ ($\angle$s in same segment)