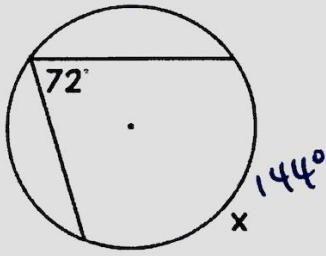
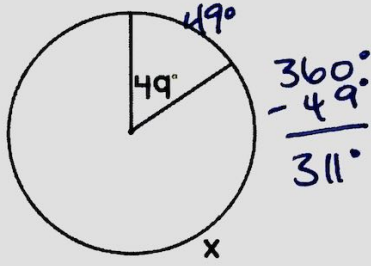


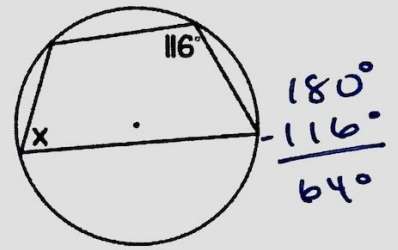
1. $x = 144^\circ$



2. $x = 311^\circ$



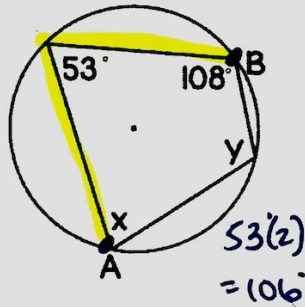
3. $x = 64^\circ$



4. $x = 72^\circ$
 $y = 127^\circ$

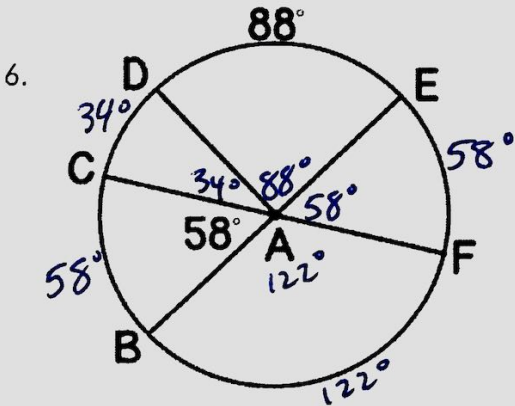
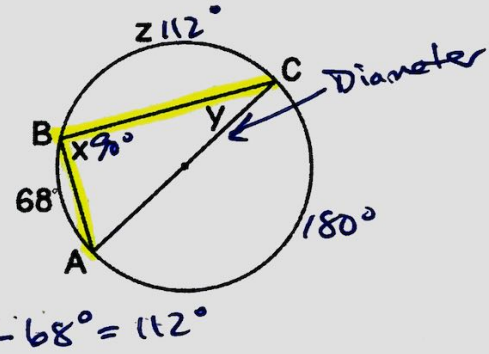
$m\widehat{AB} = 106^\circ$

$\frac{180 - 108}{72}$ $\frac{180 - 53}{127}$



5. $x = 90^\circ$
 $y = 34^\circ$
 $z = 112^\circ$

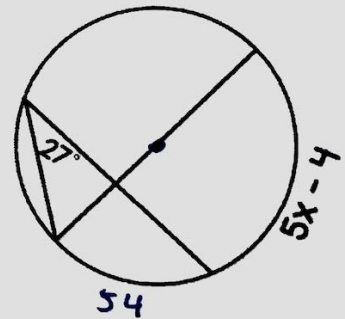
$\frac{68}{2} = 34^\circ$



$m\angle EAF = 58^\circ$
 $m\widehat{CB} = 58^\circ$
 $m\widehat{BDE} = 180^\circ$
 $m\angle DAF = 146^\circ$
 $m\widehat{BF} = 122^\circ$

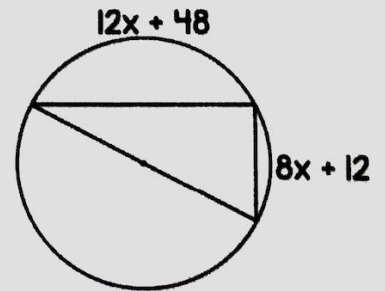
7. $x = 26$

$180 = 54 + 5x - 4$
 $180 = 50 + 5x$
 $130 = 5x$
 $x = 26$



8. $x = 6$

$12x + 48 + 8x + 12 = 180$
 $20x + 60 = 180$
 $20x = 120$
 $x = 6$



9. $m\widehat{DB} = 120^\circ$

$x = 43$
 $m\angle DAB = 120^\circ$

$180 - 60 = 120$

$360 = 120 + 3x + 13 + 2x + 12$
 $360 = 145 + 5x$
 $215 = 5x$
 $x = 43$

