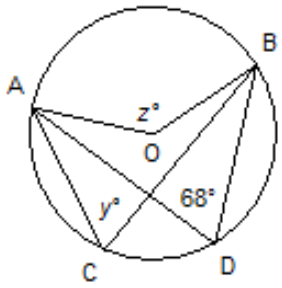
MULTIPLE CHOICE:

1.	C	7.	A
2.	B	8.	A
3.	D	9.	C
4.	D	10.	B
5.	A	11.	B
6.	C	12.	D

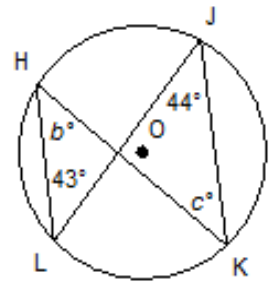
1. Point O is the centre of this circle. Determine the values of $y°$ and $z°$. **(4)**



<y = 68° (IAP)

<z = 136 (CIAP)

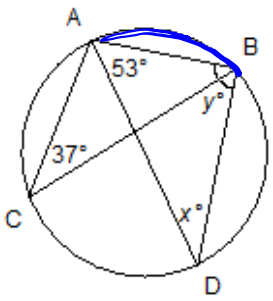
2. Point O is the circle. Determine the values of $b°$ and $c°$. **(4)**



<b = 44 (IAP)

<c = 43 (IAP)

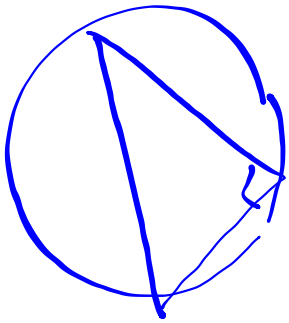
3. Determine the values of $x°$ and $y°$. Using the value of $y°$, determine what kind of line AD is. **(5)**



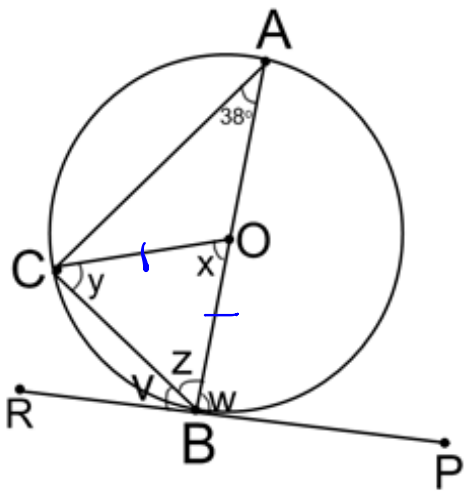
<x = 37° (IAP)

180 − 53 − 37 <y = 90 (SATT)

AD = diameter



4. Determine the values for the following unknown angles: **(10)**



<x = 76° (CIAP)

<y = 52° (SATT III)

<z = 52° (SATT III)

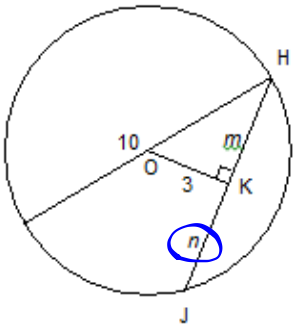
<w = 90° (TRP)

<v = 38° (TRP)

CAT

90-52

5. Point O is the centre of this circle. Determine the value of n to the nearest tenth, if necessary. **(6)** 3



$a^2 = c^2 - b^2$

$m^2 = 5^2 - 3^2$

$= 25 - 9$

$= 16$

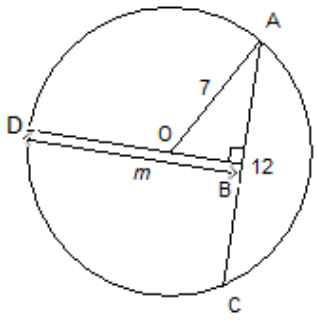
$m = \sqrt{16}$

$= 4$

$n = m$

$= 4$

6. Point O is the centre of this circle. Determine the value of m to the nearest tenth, if necessary. ~~(7)~~ 3



$a^2 = c^2 - b^2$

$OB^2 = 7^2 - 6^2$

$= 49 - 36$

$= 13$

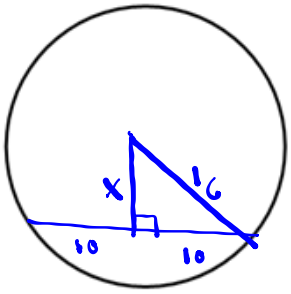
$OB = \sqrt{13}$

$= 3.6$

$m = 3.6 + 7$

$= 10.6$

7. A circle has diameter 32 cm. How far from the centre of the circle, to the nearest centimeter, is a chord 20 cm long? (Sketch a diagram using the circle provided below.) ~~(5)~~ 3



$a^2 = c^2 - b^2$

$x^2 = 16^2 - 10^2$

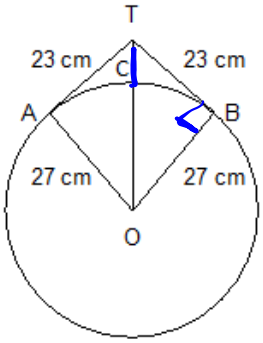
$= 256 - 100$

$= 156$

$x = \sqrt{156}$

$= 12.5$ cm

8. A circular mirror with radius 27 cm hangs from a hook. The wire is 46 cm long (23 cm + 23 cm) and is a tangent to the circle at points A and B. How far above the top of the mirror is the hook (to the nearest tenth)? ~~(7)~~ 3



$c^2 = a^2 + b^2$

$TO^2 = 23^2 + 27^2$

$= 529 + 729$

$= 1258$

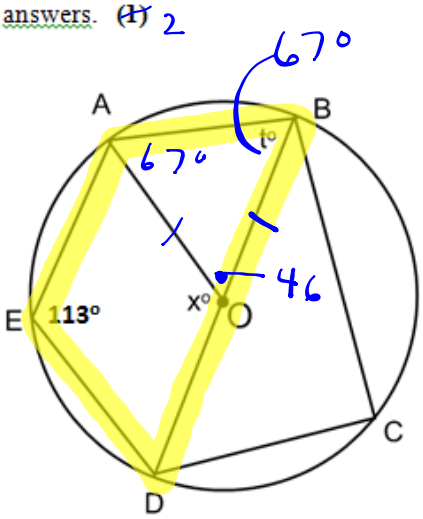
$TO = \sqrt{1258}$

$= 35.5 \text{ cm}$

$TC = 35.5 - 27$

$= 8.5 \text{ cm}$

BONUS: Point O is the centre of the circle and BD is a diameter. Determine the values $x°$ and $t°$. Justify your answers. ~~(4)~~ 2



$t = 180 - 113$ CAP

$= 67°$

$x = 180 - 46$

$= 134°$ SAT