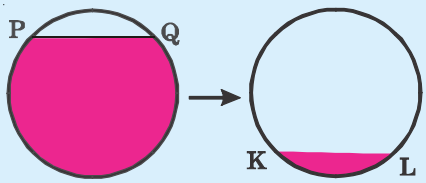
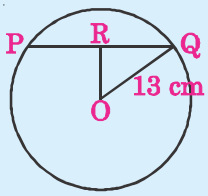
01 **In the given figure, the cross section of a pipe is shown. The water level in the pipe fell from PQ to KL. If PQ = KL = 10 cm and the radius of the cross section of the pipe is 13 cm. Find the drop in the water level in cm.**





PQ = 10 cm

$\therefore$ RQ = $\frac{10}{2}$ = 5 cm

OQ = 13 cm

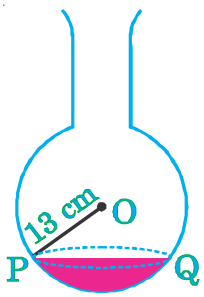
OR = $\sqrt{13^2 - 5^2} = \sqrt{144}$

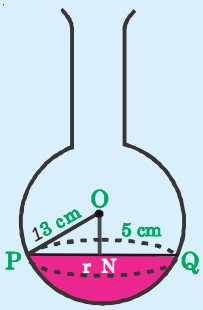
OR = 12 cm

Drop in water level

= 2(12) cm = 24 cm

02 **The given figure shows a round-bottomed flask which contains some water up to the level PQ. O is the centre of the spherical portion of the flask. If the perpendicular distance from O to PQ is 5 cm, find the radius of the surface level in cm.**





$$PN = \sqrt{OP^2 - ON^2} = \sqrt{13^2 - 5^2}$$

$$= \sqrt{169 - 25}$$

$$= 12\text{cm}$$

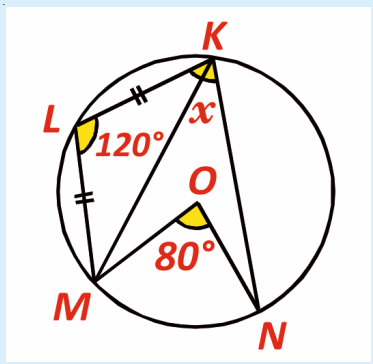
$$PN = 12\text{cm}$$

03 Find the value of x.

$$\angle MKN = \frac{80°}{2} = 40°$$

$$\angle LKM = \frac{180° - 120°}{2} = 30°$$

$$x° = 40° + 30° = 70°$$



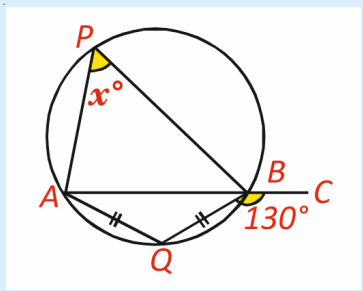
04 In the given figure, ABC is a straight line. Find the value of x.

$$\angle QAB + \angle AQB = 130°$$

$$2\angle QAB + \angle AQB = 180°$$

$$\Rightarrow \angle QAB = 50°$$

$$x = \angle APB = 180° - 50° = 130°$$



05 **In the given figure, KM is a diameter and KMP is a straight line. Find the value of $y - x$.**

$\angle KNM = 90°$

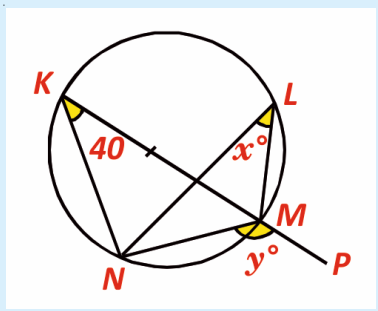
$y = 90° + 40°$

$y = 130°$

$x = 40°$

$y - x = 130° - 40°$

$= 90°$



06 **In the given figure, LP is a diameter. Find the value of $x + y$.**

$\angle LNP = 90°$

$\angle LPN = 65°$

$y = 180° - [90° + 65°]$

$y = 180° - 155°$

$y = 25°$

$x = 180° - 65°$

$x = 115°$

$x + y = 115° + 25°$

$x + y = 140°$