PARAGON CONVENT SCHOOL
SECTOR – 24 B , CHANDIGARH

ANSWER KEY

CLASS – 7 **SUB – MATHS**

EXERCISE – 10A

Q-1. Identify the following pairs of angles as complementary , supplementary or equal .

Complementary angles : Two angles are called complementary if the sum of their measure is equal to 90^0 .

Supplementary angles : Two angles are called supplementary if the sum of their measures is equal to 180^0 .

a. 77^0 and 103^0
   $77^0 + 103^0 = 180^0$ = supplementary
b. 177^0 and 177^0 = Equal
c. 7^0 and 173^0
   $= 7^0 + 173^0 = 180^0$= supplementary
d. 3^0 and 87^0
   $= 3^0 + 87^0 = 90^0$ = complementary
e. 45^0 and 45^0
   $= 45^0 + 45^0 = 90^0$
   = Equal and complementary
f. 90^0 and 90^0
   $= 90^0 + 90^0 = 180^0$
   = Equal and supplementary

Q-5. Write the complements of the following angles –

a. $45^0 = 90^0 – 45^0 = 45^0$
b. $40^0 = 90^0 – 40^0 = 50^0$

d. $54^0 = 90^0 – 54^0 = 36^0$

f. $36^0 = 90^0 – 36^0 = 54^0$

Q-6. Write the supplements of the following angles –

a. 80^0

$= 180^0 – 80^0 = 100^0$

b. 10^0

$= 180^0 - 10^0 = 170^0$

c. 125^0

$= 180^0 – 125^0 = 55^0$

e. 38^0

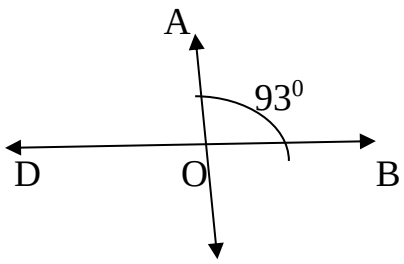
$= 180^0 – 38^0 = 142^0$

g. 100^0

$= 180^0 – 100^0 = 80^0$

Q-7. The measure of one angle is given in the following figure . Find all the angles.

a.



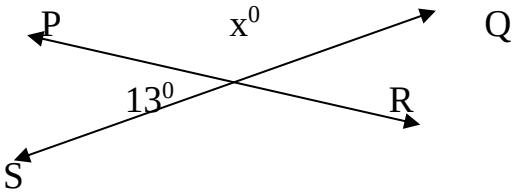
Let $\angle AOD = x^0$

$x^0 + 93^0 = 180^0$ (linear pair)

$x^0 = 180^0 – 93^0 = 87^0$

Hence $\angle DOC = 93^0$ And $\angle BOC = \angle AOD = 87^0$

b.



Let $\angle POQ = x^0$

$x^0 + 13^0 = 180^0$ (linear pair)

$x^0 = 180^0 – 13^0 = 167^0$

Hence $\angle QOR = 13^0$ and $\angle POQ = \angle ROS = 167^0$

Q-8. Find the measure of x in the following figures –

a. $x + 130^0 = 180^0$ (linear pair)

$= x = 180^0 – 130^0 = 50^0$

b. $x + x + 20^0 = 180^0$

$= 2x + 20^0 = 180^0$

$= 2x = 180^0 - 20^0$

$2x = 160^0$

$x = \frac{160}{2} = 80^0$

c. $x = 57^0$ (vertically opposite angles)

d. $x + x + 18^0 = 180^0$ (linear pair)

$2x + 18^0 = 180^0$

$2x = 180^0 - 18^0$

$2x = 162^0$

$X = 81^0$

e. $x + x + \frac{x}{2} + 90^0 = 360^0$

$\frac{2x + 2x + x}{2} = 360^0 - 90^0$

$\frac{5x}{2} = 270^0$

$5x = 540^0$

$= x = 540^0/5$

$X = 108^0$