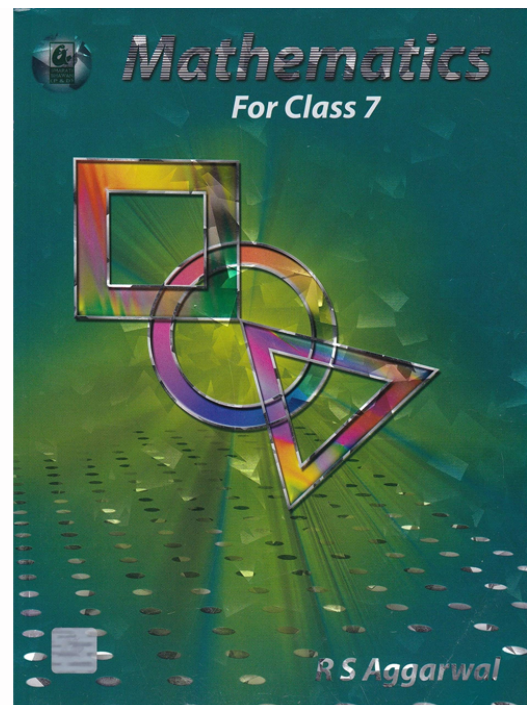


RS Aggarwal Solutions for Class 7 Maths Chapter 13–Lines and Angles

Class 7 - Chapter 13 Lines and Angles



For any clarifications or questions you can write to info@indcareer.com

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RS Aggarwal Solutions for Class 7 Maths Chapter 13–Lines and Angles

Class 7: Maths Chapter 13 solutions. Complete Class 7 Maths Chapter 13 Notes.

RS Aggarwal Solutions for Class 7 Maths Chapter 13–Lines and Angles

RS Aggarwal 7th Maths Chapter 13, Class 7 Maths Chapter 13 solutions

Question 1.

Solution:

(i) The given angle = 35°

Let x be its complementary, then

$$x + 35^\circ = 90^\circ$$

$$\Rightarrow x = 90^\circ - 35^\circ = 55^\circ$$

Complement angle = 55°

(ii) The given angle = 47°

Let x be its complement, then

$$x + 47^\circ = 90 \Rightarrow x = 90^\circ - 47^\circ = 43^\circ$$

Complement angle = 43°

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(iii) The given angles = 60°

Let x be its complement angle

$$x + 60^\circ = 90^\circ \Rightarrow x = 90^\circ - 60^\circ = 30^\circ$$

Complement angle = 30°

(iv) The given angle = 73°

Let x be its complement angle

$$x + 73^\circ = 90^\circ$$

$$\Rightarrow x = 90^\circ - 73^\circ = 17^\circ$$

Complement angle = 17°

Question 2.

Solution:

(i) Given angle = 80°

Let x be its supplement angle, then

$$x + 80^\circ = 180^\circ$$

$$\Rightarrow x = 180^\circ - 80^\circ = 100^\circ$$

Supplement angle = 100°

(ii) Given angle = 54°

Let x be its supplement angle, then

$$x + 54^\circ = 180^\circ$$

$$\Rightarrow x = 180^\circ - 54^\circ = 126^\circ$$

Supplement angle = 126°

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(iii) Given angle = 105°

let x be its supplement angle, then

$$x + 105^\circ = 180^\circ$$

$$\Rightarrow x = 180^\circ - 105^\circ = 75^\circ$$

Supplement angle = 75°

(iv) Given angle = 123°

Let x be its supplement angle, then

$$x + 123^\circ = 180^\circ$$

$$\Rightarrow x = 180^\circ - 123^\circ = 57^\circ$$

\Rightarrow Supplement angle = 57°

Question 3.

Solution:

Let smaller angle = x

Then larger angle = $x + 36^\circ$

But $x + x + 36^\circ = 180^\circ$ (Angles are supplementary)

$$2x = 180^\circ - 36^\circ = 144^\circ$$

$$x = 72^\circ$$

Smaller angle = 72°

and larger angle = $72^\circ + 36^\circ = 108^\circ$

Question 4.

Solution:

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Let angle be = x

Then other supplement angle = $180^\circ - x$

$$x = 180^\circ - x$$

$$\Rightarrow x + x = 180^\circ$$

$$\Rightarrow 2x = 180^\circ$$

$$\Rightarrow x = 90^\circ$$

Hence angles are 90° , and 90°

Question 5.

Solution:

Sum of two supplementary angles is 180°

If one is acute, then second will be obtuse or both angles will be equal

Hence both angles can not be acute or obtuse

Both can be right angles only

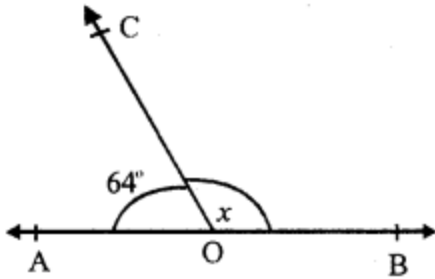
Question 6.

Solution:

In the given figure,

AOB is a straight line and the ray OC stands on it.

$$\angle AOC = 64^\circ \text{ and } \angle BOC = x^\circ$$



$\angle AOC + \angle BOC = 180^\circ$ (Linear pair)

$$\Rightarrow 64^\circ + x = 180^\circ$$

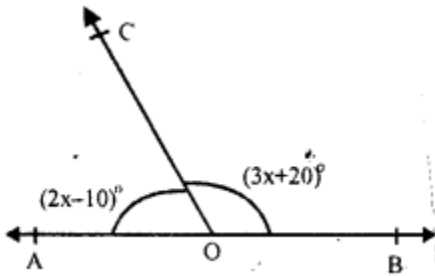
$$\Rightarrow x = 180^\circ - 64^\circ = 116^\circ$$

Hence $x = 116^\circ$

Question 7.

Solution:

AOB is a straight line and ray OC stands on it $\angle AOC = (2x - 10)^\circ$, $\angle BOC = (3x + 20)^\circ$



$\angle AOC + \angle BOC = 180^\circ$ (Linear pair)

$$\Rightarrow 2x - 10^\circ + 3x + 20^\circ = 180^\circ$$

$$\Rightarrow 5x + 10^\circ = 180^\circ$$

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$$\Rightarrow 5x = 170^\circ$$

$$\Rightarrow x = 34^\circ$$

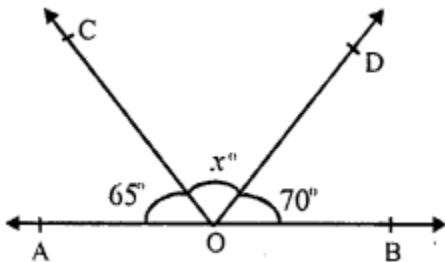
$$\angle AOC = (2x - 10)^\circ = 2 \times 34^\circ - 10 = 68^\circ - 10^\circ = 58^\circ$$

$$\angle BOC = (3x + 20)^\circ = 3 \times 34^\circ + 20^\circ - 102^\circ + 20^\circ = 122^\circ$$

Question 8.

Solution:

AOB is a straight line and rays OC and OD stand on it $\angle AOC = 65^\circ$, $\angle BOD = 70^\circ$ and $\angle COD = x$



But $\angle AOC + \angle COD + \angle BOD = 180^\circ$ (Angles on one side of the straight line)

$$\Rightarrow 65^\circ + x + 70^\circ = 180^\circ$$

$$\Rightarrow 135^\circ + x = 180^\circ$$

$$\Rightarrow x = 180^\circ - 135^\circ$$

$$\Rightarrow x = 45^\circ$$

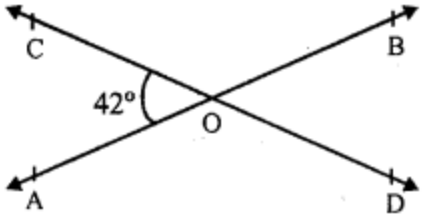
Hence $x = 45^\circ$

Question 9.

Solution:

Two straight lines AB and CD intersect each other at O.

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$$\angle AOC = 42^\circ$$

AB and CD intersect each other at O.

$$\angle AOC = \angle BOD \text{ (Vertically opposite angles)}$$

$$\text{and } \angle AOD = \angle BOC$$

$$\text{But } \angle AOC = 42^\circ$$

$$\angle BOD = 42^\circ$$

AOB is a straight line and OC stands on it

$$\angle AOC + \angle BOC = 180^\circ$$

$$\Rightarrow 42^\circ + \angle BOC = 180^\circ$$

$$\Rightarrow \angle BOC = 180^\circ - 42^\circ = 138^\circ$$

But $\angle AOD = \angle BOC$ (vertically opposite angles)

$$\angle AOD = 138^\circ$$

Hence $\angle AOD = 138^\circ$, $\angle BOD = 42^\circ$ and $\angle COB = 138^\circ$

Question 10.

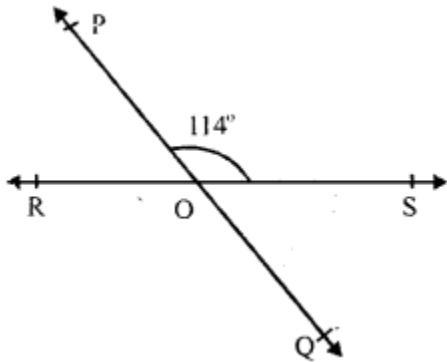
Solution:

Two straight lines PQ and RS intersect at O.

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$$\angle POS = 114^\circ$$

Straight lines,



PQ and RS intersect each other at O

$$\angle POS = \angle QOR \text{ (Vertically opposite angles)}$$

$$\text{But } \angle POS = 114^\circ$$

$$\angle QOR = 114^\circ \text{ or } \angle ROQ = 114^\circ$$

$$\text{But } \angle POS + \angle POR = 180^\circ \text{ (Linear pair)}$$

$$\Rightarrow 114^\circ + \angle POR = 180^\circ$$

$$\Rightarrow \angle POR = 180^\circ - 114^\circ = 66^\circ$$

$$\text{But } \angle QOS = \angle POR \text{ (vertically opposite angles)}$$

$$\angle QOS = 66^\circ$$

$$\text{Hence } \angle POR = 66^\circ, \angle ROQ = 114^\circ \text{ and } \angle QOS = 66^\circ$$

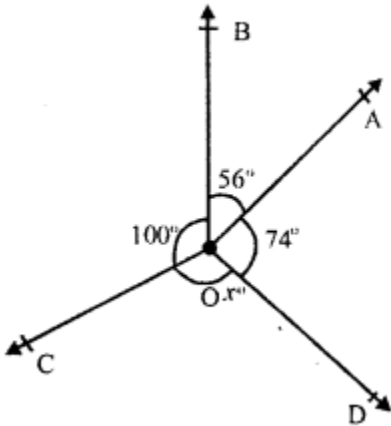
Question 11.

Solution:

In the given figure, rays OA, OB, OC and OD meet at O and $\angle AOB = 56^\circ$,

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$\angle BOC = 100^\circ$, $\angle COD = x$ and $\angle DOA = 74^\circ$



But $\angle AOB + \angle BOC + \angle COD + \angle DOA = 360^\circ$ (Angles at a point)

$$56^\circ + 100^\circ + x^\circ + 74^\circ = 360^\circ$$

$$\Rightarrow 230^\circ + x^\circ = 360^\circ$$

$$\Rightarrow x^\circ = 360^\circ - 230^\circ = 130^\circ$$

$$\Rightarrow x = 130^\circ$$



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- Chapter 10–Percentage
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He was born on January 2, 1946 in a village of Delhi. He graduated from Kirori Mal College, University of Delhi. After completing his M.Sc. in Mathematics in 1969, he joined N.A.S. College, Meerut, as a lecturer. In 1976, he was awarded a fellowship for 3 years and joined the University of Delhi for his Ph.D. Thereafter, he was promoted as a reader in N.A.S. College, Meerut. In 1999, he joined M.M.H. College, Ghaziabad, as a reader and took voluntary retirement in 2003. He has authored more than 75 titles ranging from Nursery to M. Sc. He has also written books for competitive examinations right from the clerical grade to the I.A.S. level.

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