Lines and Angles Questions PDF with detailed Solutions

Lines and Angles questions are an important type of questions asked in competitive exams. These questions carry a weightage of 1-2 questions(2-4 marks) in SSC exams . To perform well in competitive exams, your concepts of Lines and Angles should be clear, as they can award valuable marks in less time

Here are some tips for solving Lines and Angles questions: Start by understanding basic concepts, such as angles' types (right, acute, obtuse) and relationships (complementary, supplementary). Draw clear diagrams to visualize problems. When lines are parallel, identify properties like alternate interior and corresponding angles. Practice with various scenarios to gain confidence in solving these types of problems.

So, we have attached 10 questions of Lines and Angles for you to practice with. You should aim to solve these questions in less than half a minute for each.

Practice Questions on Lines and Angles

You can also download the Lines and Angles questions and answers pdf. Just click on the **Download PDF** button. So let's start with the very first question.

Q:1 In the given figure ∠POA = (3x + 72°), ∠POQ = (2x - 3°), and ∠QOB = (x - 3°) then, find the value of ∠BOQ.

1. 16°

2. 19°

3. 15°

4. 0°

(**Difficulty:** 2, **Estimated Time:** 15 Seconds) This was an easy one. Did get it right?

Q:2 In the given figure ∠AOP = 90°, ∠AOB = ∠COD = x, and ∠BOC = ∠DOQ = 2x. Examine the figure and find the measure of ∠BOD.

1. 30°

2. 45°

3. 15°

4. 20°

(**Difficulty:** 3, **Estimated Time:** 20 Seconds) This was a simple one, don't get stuck in unnecessary calculations!

Q:3 What will be the complementary angle of 64°30'?

1. 55° 30'

2. 25° 50'

3. 25° 30'

4. 35° 35'

(**Difficulty:** 2, **Estimated Time:** 15 Seconds) A question of seconds.....

Q:4 In the given figure EF || GH, AB, and CD are the transversals. If ∠NMP = (70° + x) and ∠HOD = 2x then, find the value of ∠HOD.

1. 140°

2. 160°

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3. 45°

4. 155°

(**Difficulty:** 3, **Estimated Time:** 20 Seconds) It is not an easy one but I think now you're prepared for it.

Q:5 In the given figure ∠DOA = 3x, ∠EOC = 2x, and ∠BOF = x. Find the value of x.

1. 45°

2. 30°

3. 90°

4. 60°

(**Difficulty:** 3, **Estimated Time:** 20 Seconds) We're halfway through. Have you got all your questions correct so far?

Q:6 In the given figure ∠EOF = ∠FOG = ∠GOB = x and, ∠EOD = ∠DOC = ∠COA = y. Find the measure of ∠DOF.

1. 60°

2. 55°

3. 40°

4. 90°

(**Difficulty:** 2, **Estimated Time:** 15 Seconds) Should we raise the level of questions?

4. 32.15°

(**Difficulty:** 3, **Estimated Time:** 20 Seconds) Try using short tricks to save time..

Q:8 If an angle is 85° less than the measure of its supplementary angle. Find the angle.

1. 85°

2. 47.5°

3. 75°

4. 45.5°

(**Difficulty:** 3, **Estimated Time:** 20 Seconds) This was a bit calculative one...

Q:9 In the given figure AB || CD, and EC || BG. If ∠AME = 44° and ∠FLG = 130° then, find the difference between ∠BHD and ∠GLD.

1. 250°

2. 54°

3. 96°

4. 86°

(**Difficulty:** 3, **Estimated Time:** 20 Seconds) Try decreasing time in your calculations

Q:10 In the given figure PQ||RS, AB, and CB are the transversals having a common point B. If ∠POL = 130°, ∠BNS = 100°. then, find the value of ∠LBN.

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1. 50°

2. 45°

3. 120°

4. 105°

☐

(**Difficulty:** 2, **Estimated Time:** 15 Seconds) Did you guess them all correctly?

Answer Key

Let's check out your score in this test.

1. (1)	2. (2)	3. (3)	4. (1)	5. (2)
6. (1)	7. (4)	8. (2)	9. (4)	10. (1)

Comment below your score, considering each question has 1 mark only. If you scored 8 to 10, congratulations! You are one step closer to selection. If you have scored 5 to 8 marks, then you are doing well, keep it up. If you have scored less than 5 marks then you need to work a little harder on this subject. But don't worry, we are here to help you master the subject.

Let's check the answers and solutions and try to find out what went wrong.

Answers and Solutions

Q:1 The correct answer is **option 1** i.e. **16°**.

Line AOB is the straight line then, the sum of ∠POA, ∠POQ, and ∠QOB equals 180°

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Given-

$\angle POA = (3x + 72°)$, $\angle POQ = (2x - 3°)$, and $\angle QOB = (x - 3°)$

Then, the sum of $\angle POA + \angle POQ + \angle QOB = 180°$

$\Rightarrow 3x + 72° + 2x - 3° + x - 3° = 180°$

$\Rightarrow 6x + 72° - 3° - 3° = 180°$

$\Rightarrow 6x = 180° - 73° + 6°$

$\Rightarrow 6x = 114°$

$\Rightarrow x = 19°$

Value of $\angle BOQ = (x - 3) = (19 - 3) = 16°$

Q:2 The correct answer is **option 2** i.e. **45°.**

POQ can be considered as a straight line when the sum of $\angle AOP$ and $\angle AOQ$ is 180°

$\Rightarrow \angle AOP = 90°$

Hence, the sum of $\angle AOB + \angle BOC + \angle COD + \angle DOQ = 90°$

$\Rightarrow x + 2x + x + 2x = 90°$

$\Rightarrow 6x = 90°$

$\Rightarrow x = 15°$

Value of $\angle BOD$

$\Rightarrow x + 2x = 3x$

$\Rightarrow 3x = 3 \times 15° = 45°$

Q:3 The correct answer is **option 3** i.e. **25° 30'.**

We know that,

$\Rightarrow 1° = 60'$ and,

$\Rightarrow 1' = 60''$

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Solving the given question-

A complementary angle means 90° = 89° 60' and,

subtract the given value from 89° 60'

⇒ (89° 60') - (64° 30') = 25° 30'

Q:4 The correct answer is **option 1** i.e. **140°.**

Given -

⇒ ∠NMP = (70° + x) and, ∠HOD = x

If EF ∥ GH, AB, and CD are the transversals then, according to the property of corresponding angles

⇒ ∠FNO = ∠NMP = (70° + x) and,

⇒ ∠FNO = ∠HOD [corresponding angles]

⇒ 2x = 70° + x

⇒ x = 70°

Value of ∠HOD = 2x = 2 × 70° = 140°

Q:5 The correct answer is **option 2** i.e. **30°.**

⇒ ∠DOA = ∠COB = 3x [V.O.A]

⇒ ∠EOC = ∠ DOF = 2x and, [V.O.A]

⇒ ∠BOF = ∠AOE = x [V.O.A]

Hence,

⇒ ∠EOC + ∠COB + ∠BOF = 180° [linear pair]

⇒ 2x + 3x + x = 180°

⇒ 6x = 180°

⇒ x = 30°

Q:6 The correct answer is **option 1** i.e. **60°.**

According to the figure,

∠EOF = ∠FOG = ∠GOB = x and ∠EOD = ∠DOC = ∠COA = y

These all angles are in linear pairs means the sum of all angles is equal to 180

Hence,

⇒ ∠EOF + ∠FOG + ∠GOB + ∠EOD + ∠DOC + ∠COA = 180°

⇒ x + x + x + y + y + y = 180°

⇒ 3x + 3y = 180°

⇒ x + y = 60°

⇒ ∠DOF = (x + y) = 60°

Q:7 The correct answer is **option 4** i.e. **32.15°.**

According to the question-

⇒ 5θ = 2(180° - θ) + 45°

⇒ 5θ = 360° - 2θ + 45°

⇒ 7θ = 405°

⇒ θ = 57.85°

Complementary angle = (90° - 57.85°) = 32.15°

Q:8 The correct answer is **option 2** i.e. **47.5°.**

Let the angle be θ

According to the question -

If the sum of two angles is equal to 180 then, the angles are considered supplementary angles

⇒ θ = (180° - θ) - 85°

⇒ 2θ = 95°

8

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$\Rightarrow \theta = 47.5°$

Q:9 The correct answer is **option 4** i.e. **86°.**

Given - ∠AME = 44° and ∠FLG = 130°

∠AME + ∠AMC = 180°

∠AMC = (180° - 44°) = 136°

∠AMC = ∠MBH = 136° [EC‖ BG, corresponding angles]

∠MBH = CHL = 136° [AB‖CD, corresponding angles]

Hence, ∠**BHD = 136°** [V.O.A]

Now, ∠FLG + GLD = 180° [linear pair]

$\Rightarrow$ 130° + ∠GLD = 180°

$\Rightarrow$ ∠**GLD = 50°**

The difference between ∠BHD and ∠GLD = (136° - 50°) = 86°

Q:10 The correct answer is **option 1** i.e. **50°.**

Given:- ∠POL = 130° and, ∠BNS = 100°

So, ∠POL = 130°

$\Rightarrow$ ∠RLB = 130° [corresponding angles]

$\Rightarrow$ ∠RLB + ∠BLN = 180° [linear pair]

$\Rightarrow$ 130° + ∠BLN = 180°

$\Rightarrow$ ∠BLN = 50°

Now,∠BNS = 100°

So, ∠BNS + ∠BNL = 180° [linear pair]

$\Rightarrow$ 100° + ∠BNL = 180°

$\Rightarrow$ ∠BNL = 80°

Now, In △LNB

$\Rightarrow \angle LNB + \angle NBL + \angle BLN = 180°$ [sum of all angles of a triangle is always 180°]

$\Rightarrow 50° + 80° + \angle LBN = 180°$

$\Rightarrow \angle LBN = 50°$

So, this is it for today. We will meet again with another new topic. Till then, you can practice the questions again by downloading the PDF of Lines and Angles.