

## Worksheet: Lines and Angles

Uttar Pradesh State Board · Class 9 · Mathematics · 15 questions · 36 marks

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Score: \_\_\_\_\_ / 36

**Q1.** Find the complement and supplement of  $32^\circ$ . [1 mark]

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**Q2.** Classify  $115^\circ$  as acute, right, obtuse or reflex. [1 mark]

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**Q3.** If AOB and BOC form a linear pair and  $\text{AOB} = 75^\circ$ , find BOC. [1 mark]

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**Q4.** Two intersecting lines make an angle of  $50^\circ$ . Find all four angles formed. [1 mark]

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**Q5.** If two angles forming a linear pair are in the ratio 2 : 3, find both. [2 marks]

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**Q6.** Two parallel lines are cut by a transversal. An alternate interior angle is  $72^\circ$ . Find the corresponding co-interior angle. [2 marks]

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**Q7.** Two parallel lines are cut by a transversal. One of the angles formed is  $65^\circ$ . Find all eight angles. [3 marks]

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**Q8.**  $\ell$  and  $m$  are cut by a transversal. Corresponding angles are  $(3x + 10)^\circ$  and  $(5x - 30)^\circ$ . Find  $x$ . [3 marks]

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**Q9.** Two angles of a triangle are  $53^\circ$  and  $78^\circ$ . Find the third. [2 marks]

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**Q10.** If the three angles of a triangle are equal, find each. [2 marks]

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**Q11.** An exterior angle of a triangle is  $105^\circ$ . One interior opposite angle is  $45^\circ$ . Find the other. [3 marks]

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**Q12.** In  $\triangle ABC$ ,  $A = (3x - 5)^\circ$ ,  $B = (4x + 10)^\circ$ ,  $C = (2x + 30)^\circ$ . Find  $x$  and each angle. [3 marks]

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**Q13.** In a figure,  $\ell$  and  $m$  are parallel lines and a transversal makes  $\angle 1 = (2x + 30)^\circ$  at  $\ell$  and  $\angle 2 = (3x - 20)^\circ$  at  $m$ , where  $\angle 1$  and  $\angle 2$  are alternate interior angles. Find  $x$  and  $\angle 1$ . [4 marks]

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**Q14.** Find the sum of interior angles of a heptagon (7-sided polygon). [4 marks]

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**Q15.** Lines  $l$  and  $m$  are parallel. Point P lies between them. PA hits  $l$  making angle  $40^\circ$  with  $l$ ; PB hits  $m$  making angle  $50^\circ$  with  $m$ . Find  $\angle APB$ . [4 marks]

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