



SHIKSHA CLASSES

Sub. : Maths
Std. IX (CBSE)

Question Paper 6. Lines and Angles

Total Marks : 30
Time : 1 Hr.

Section A (Each 1 Marks)

Multiple Choice Questions. (MCQs)

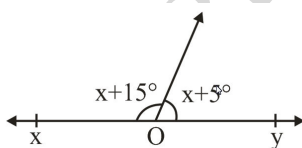
Q.1 : The complement of $(90^\circ - \alpha)$ is :

- a) $-\alpha^\circ$ b) $90^\circ + \alpha$ c) $90^\circ - \alpha$ d) α°

Q.2 : Measure of an angle which is supplement to itself is

- a) 45° b) 30° c) 90° d) 180°

Q.3 : In figure, the value of x is :

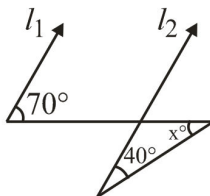


- a) 40° b) 80° c) 35° d) 90°

Q.4 : In $\triangle ABC$, $\angle A = \frac{\angle B}{2} = \frac{\angle C}{6}$ then the measure of $\angle A$ is :

- a) 60° b) 30° c) 40° d) 20°

Q.5 : In figure lines $l_1 \parallel l_2$ value of x is



- a) 70° b) 30° c) 40° d) 50°

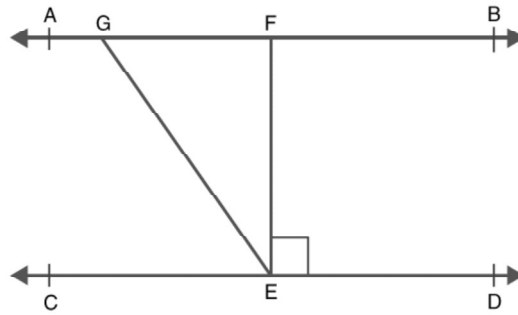
Q.6 : Two angles whose sum is equal to 180° are called:

- a) Vertically opposite angles b) Complementary angles
c) Adjacent angles d) Supplementary angles

Q.7 : If two lines intersect each other, then the vertically opposite angles are:

- a) Equal b) Unequal
c) Cannot be determined d) None of the above

Q.8 : If $AB \parallel CD, EF \perp CD$ and $\angle GED = 135^\circ$ as per the figure given below.



The value of $\angle AGE$ is:

- a) 120° b) 140° c) 90° d) 135°

Q.9 : An exterior angle of a triangle is 105° and its two interior opposite angles are equal. Each of these equal angles is

- a) $37 \frac{1}{2}^\circ$ b) $72 \frac{1}{2}^\circ$ c) 75° d) $52 \frac{1}{2}^\circ$

For question number 10 to 11 two statement are given one labeled Assertion and other labeled Reason select the correct answer to these questions from the codes (a), (b), (c) and (d) as given below

- a) Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A).
 b) Both assertion (A) and reason (R) are true but reason (R) is not the correct explanation of assertion (A).
 c) Assertion (A) is true but reason (R) is false.
 d) Assertion (A) is false but reason (R) is true.

Q.10 : **Assertion :** Sum of the pair of angles 120° and 60° is supplementary.

Reason: Two angles, the sum of whose measures is 180° , are called supplementary angles.

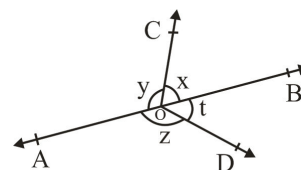
Q.11 : **Assertion :** If two interior angles on the same side of a transversal intersecting two parallel lines are in the ratio 5:4, then the greater of the two angles is 100°

Reason: If a transversal intersects two parallel lines, then the sum of the interior angles on the same side of the transversal is 180°

Section B (Each 2 Marks)

Q.12 : An angle is $\left(\frac{1}{5}\right)^{\text{th}}$ of its complement, find the angles.

Q.13 : If $x + y = z + t$ in fig. Prove that AOB is a straight line.

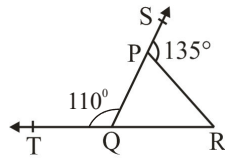


OR

If l, m, n are three lines such that $l \parallel m$ and $n \perp l$ then prove that $n \perp m$.

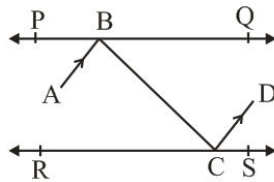
Section C (Each 3 marks)

Q.14 : In fig., side QP and RQ of ΔPQR are produced to points S and T respectively. If $\angle SPR = 135^\circ$ and $\angle PQT = 110^\circ$. Find $\angle PRQ$.



OR

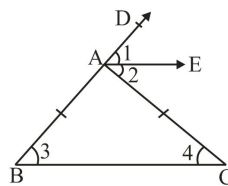
In the figure, PQ and RS are two mirrors placed parallel to each other. An incident ray AB strikes the mirror PQ at B, the reflected ray moves along the path BC and strikes the mirror RS at C and again reflects back along CD. Prove that $AB \parallel CD$.



Q.15 : If the bisectors of the angles of a ΔABC meet at a point 'O', then $\angle BOC = 90^\circ + \frac{1}{2}\angle A$.

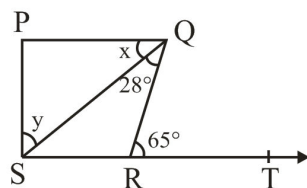
Section - D (5 marks)

Q.16 : In the given figure ABC is an isosceles triangle with $AB = AC$ and AE is bisector of exterior angle CAD. Prove that $AE \parallel BC$.



OR

In fig., if $PQ \perp PS$, $PQ \parallel SR$, $\angle SQR = 28^\circ$ and $\angle QRT = 65^\circ$, then find the values of x and y.

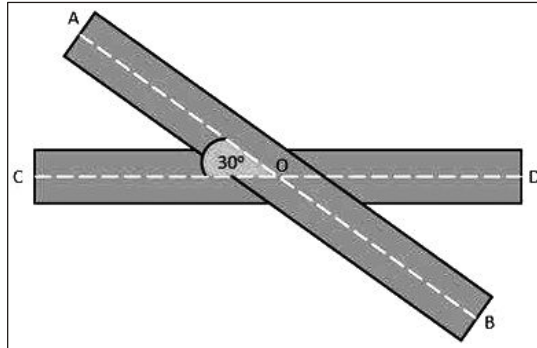


SECTION - E

Q.17 : Case Study : (Any Four)

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Harry was going on a road trip with his father. They were travelling on a straight road. After riding for some distance, they reach a crossroad where one straight road cuts the other at 30° . Now using the given information, answer the following questions.



i) Find the measure of angle AOD.

- a) 130° b) 150° c) 120° d) 50°

ii) Find the measure of angle BOD.

- a) 30° b) 150° c) 120° d) 50°

iii) Find the measure of angle BOC.

- a) 30° b) 150° c) 120° d) 50°

iv) Which of the following is incorrect?

- a) Sum of a linear pair of angles is 180°
 b) Linear pair of angles are supplementary to each other
 c) Both angles in a linear pair are acute Angles in a linear pair can be equal
 d) All of these

v) Which of the following is correct?

- a) Vertically opposite angles are always supplementary
 b) Vertically opposite angles are always complementary
 c) Vertically opposite angles are made using straight lines
 d) Vertically opposite angles have common arms

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