INDIAN SCHOOL AL WADI AL KABIR

Department: Mathematics

Class IX **Worksheet – LINES AND ANGLES**

Questions of 1 mark each

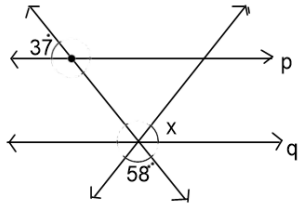
Q.1. Find the complement of $\frac{2}{5}$ of a right angle.

A	90°	B	54°	C	180°	D	144°

Q.2. Two angles measure $(30° - a)$ and $(125° + 2a)$. If each one is the supplement of the other, then find the value of a.

A	25°	B	175°	C	150°	D	35°

Q.3. In figure, if p ‖ q, what is the value of x.

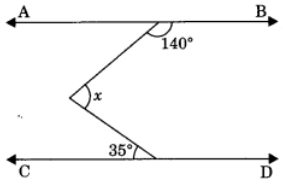


A	37°	B	58°	C	73°	D	85°

Q.4. If two interior angles on the same side of a transversal intersecting two parallel lines are in the ratio 7:5, then find the greater of the two angles.

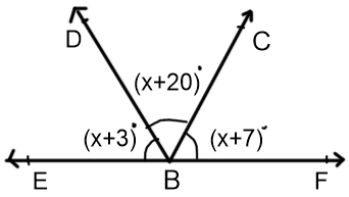
A	15°	B	75°	C	105°	D	55°

Q.5. In the given fig. AB‖CD, the value of reflex angle x is



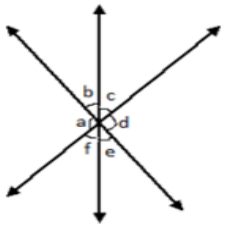
A	285°	B	175°	C	185°	D	75°

Q.6. In the given fig. find the value of x.



A	40°	B	50°	C	60°	D	80°

Q.7. In the figure which of the following statements is true?



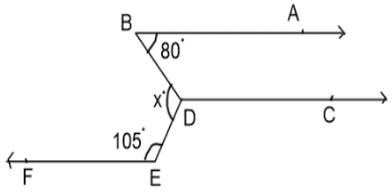
(i) a + b = d + c.

(ii) a + c + e = 180º.

(iii) b + f = c + e.

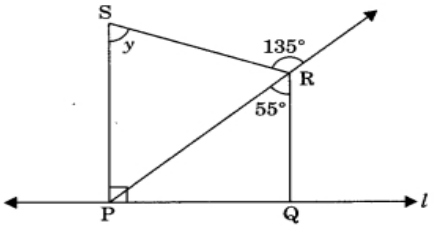
A	(i) only	B	(ii) only	C	(iii) only	D	(ii) and (iii) both

Q.8. In the given fig. AB‖ CD, CD‖EF. If $\angle ABD = 80°, \angle DEF = 105°$, the measure of x is



A	38°	B	155°	C	52°	D	128°

Q.9. In the given fig. PS⊥ l, RQ⊥ l, then find the value of y.



A	55°	B	90°	C	80°	D	135°

ASSERTION AND REASONING

DIRECTION: In the question number 10 and 12, a statement of assertion (A) is followed by statement of Reason (R). Choose the correct option:

(a) Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A).

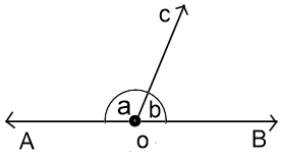
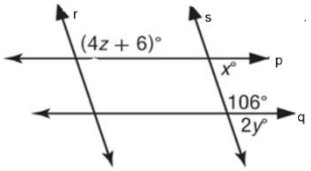
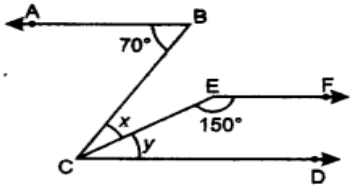
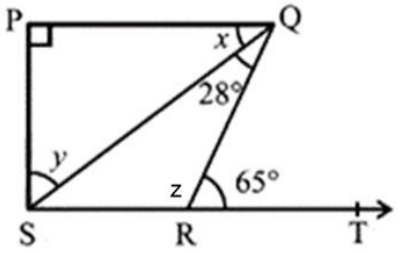
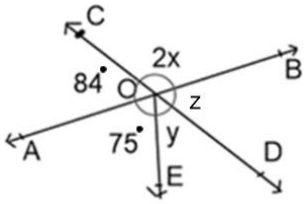
(b) Both assertion (A) and reason (R) are true and reason (R) is not the correct explanation of assertion (A).

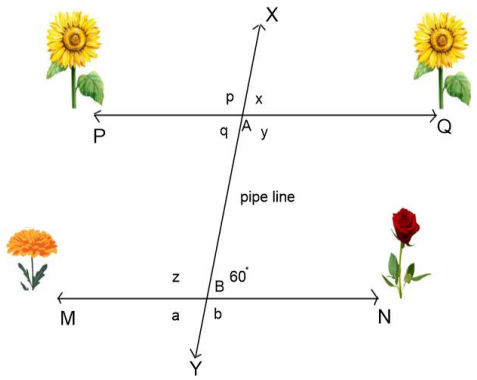
(c) Assertion (A) is true but reason (R) is false.

(d) Assertion (A) is false but reason (R) is true.

Q.10. **Assertion:** If angles 'a' and 'b' form a linear pair of angles then, if a = 40°, then b = 150°.

Reason: Sum of linear pair of angles is always 180°.

Q11.	**Assertion:** An angle is 14º more than its complementary angle, then angle is 52º. **Reason:** Two angles are said to be supplementary if their sum of measure of angles is 180°
	Questions of 2 marks each
Q.12.	In the given figure, ∠AOC and ∠BOC form a line AB. If $a - b = 80°$, find the values of a and b. 
Q.13.	In the given figure, find the value of x, y and z if p∥ q, r∥s. 
Q.14.	Find the value of x, y if AB∥EF∥CD. 
	Questions of 3 marks each
Q.15.	In the given figure, if PQ⊥PS, PQ∥SR, ∠SQR = 28° and ∠QRT = 65°, then find the values of x y and z respectively. 
Q.16.	Prove that the bisectors of pair of vertically opposite angles are in the same straight line.
Q.17.	In the given figure, lines AB and CD intersect each other at O. Find the values of x and y. 

Questions of 5 marks each	
Q.18.	If a transversal intersects two lines such that bisectors of a pair of corresponding angles are parallel, then prove that the two lines are parallel.
Case study-based (4 marks)	
Q.19.	Once 4 students from class IX k were selected for plantation of flower plants in the school garden. The selected students were Pankaj, Raju, Deepak and Renu.  As shown PQ and MN are the parallel lines of the plants. Deepak planted Marigold at the point M and Renu planted a rose plant at the point N as shown in the figure. Raju and Pankaj planted a sunflower plant at the points P and Q respectively. There was a water pipeline XY which intersects PQ and MN at A and B and ∠XBN = 60°. i) At what angle with XY should Raju plant so that PQ is parallel to row MN? ii) Find the value of p + q? iii) What is the value of $\frac{(p+q+a+z)}{6}$?

ANSWERS							
Q.1	B	**Q.2**	A	**Q.3**	D	**Q.4**	C
Q.5	A	**Q.6**	B	**Q.7**	D	**Q.8**	B
Q.9	C	**Q.10**	D	**Q.11**	B	**Q.12**	130°, 50°
Q.13	74°, 37°, 25°	**Q.14**	40°, 30°	**Q.15**	37°, 53°, 115°	**Q.17**	48°, 21°, 84°
Q.19	120°	**Q.19**	180°	**Q.19**	60°		