



Class IX

**INDIAN SCHOOL AL WADI AL KABIR
Department of Mathematics
Worksheet- Lines and Angles**

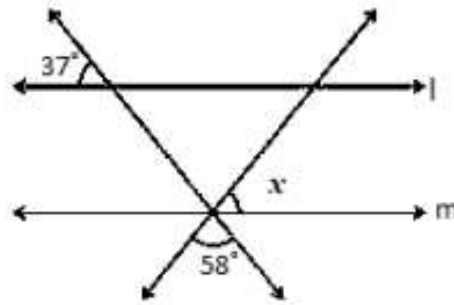
21- 08 -2022

1 Mark Questions

Q.1. If two interior angles on the same side of a transversal intersecting two parallel lines are in the ratio 2 : 3, then the greater of the two angles is

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|----------|-----|----------|------|----------|------|----------|------|
| A | 54° | B | 108° | C | 120° | D | 136° |
|----------|-----|----------|------|----------|------|----------|------|

Q.2. In figure, if $l \parallel m$, what is the value of x .



- | | | | | | | | |
|----------|-----|----------|-----|----------|-----|----------|-----|
| A | 75° | B | 85° | C | 90° | D | 70° |
|----------|-----|----------|-----|----------|-----|----------|-----|

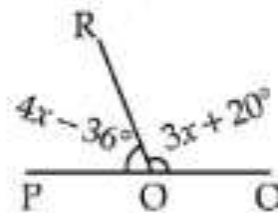
Q.3. An angle is 20° more than three times the given angle. If the two angles are supplementary the angles are:

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|----------|------------------------------|----------|------------------------------|----------|------------------------------|----------|------------------------------|
| A | 20° , 160° | B | 50° , 130° | C | 40° , 140° | D | 70° , 110° |
|----------|------------------------------|----------|------------------------------|----------|------------------------------|----------|------------------------------|

Q.4. The angle which is half its supplement is

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|----------|-----|----------|------|----------|-----|----------|-----|
| A | 80° | B | 120° | C | 60° | D | 40° |
|----------|-----|----------|------|----------|-----|----------|-----|

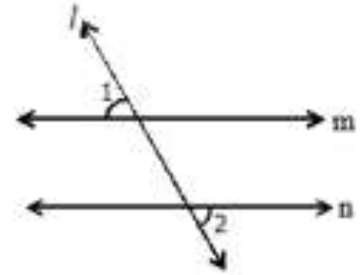
Q.5. In the given figure, what value of x will make POQ a straight line :



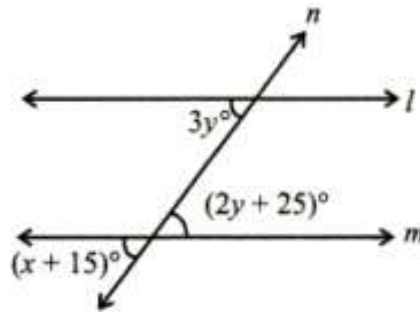
- | | | | | | | | |
|----------|----|----------|----|----------|----|----------|----|
| A | 15 | B | 12 | C | 25 | D | 28 |
|----------|----|----------|----|----------|----|----------|----|

2 marks questions

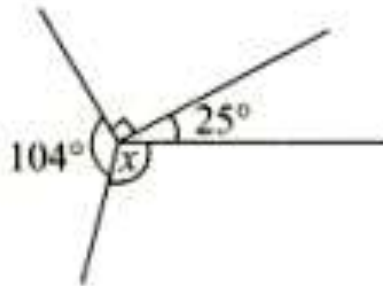
Q.6. In the figure l is transversal to the lines m and n such that $\angle 1 = 60^\circ$ and $\angle 2 = \frac{2}{3}$ of a right angle. Prove that $m \parallel n$.



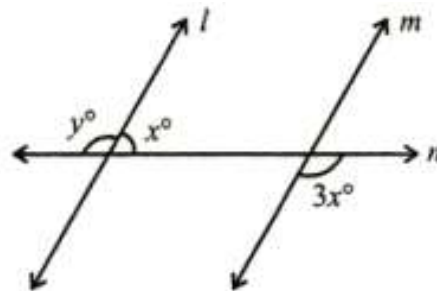
Q.7. In figure, if $l \parallel m$, what is the value of x ?

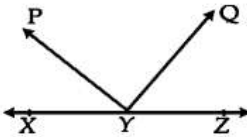


Q.8. In the given figure, find the value of x ?

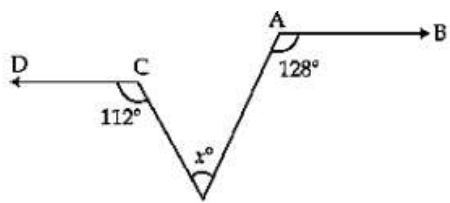


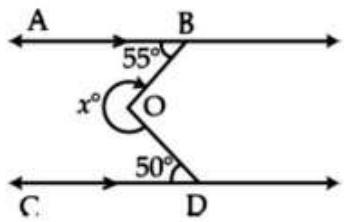
Q.9. In figure, if $l \parallel m$, what is the value of y ?



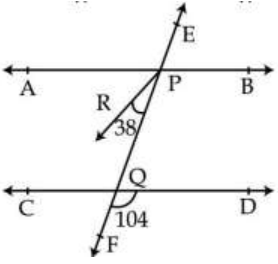
<p>Q.10.</p>	<p>In the given figure XYZ is a straight line. If $\angle XYP + \angle ZYQ = 85^\circ$, find $\angle PYQ$.</p> 
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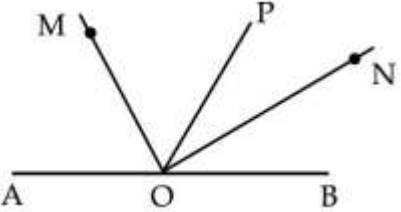
3 marks questions

<p>Q.11.</p>	<p>In the given figure $AB \parallel CD$. Find the value of x.</p> 
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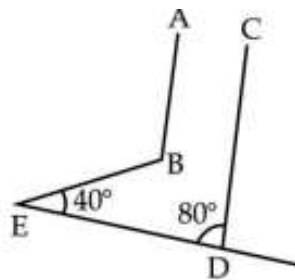
<p>Q.12.</p>	<p>In the given figure find x, if $AB \parallel CD$.</p> 
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<p>Q.13.</p>	<p>If the bisectors of a pair of alternate angles formed by a transversal with two given lines are parallel, prove that the given lines are parallel.</p>
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<p>Q.14.</p>	<p>In the figure PR is the angle bisector of $\angle APQ$. Prove that $AB \parallel CD$.</p> 
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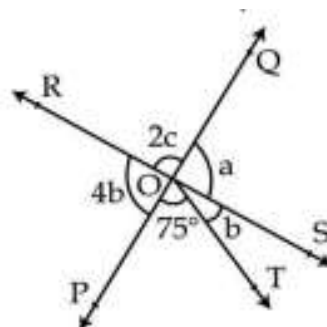
<p>Q.15.</p>	<p>In the given figure AOB is a line. OM bisects $\angle AOP$ and ON bisects $\angle BOP$. Prove that $\angle MON = 90^\circ$.</p> 
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Q.16. In the figure $AB \parallel CD$. If $\angle CDE = 80^\circ$ and $\angle BED = 40^\circ$, Find $\angle ABE$.

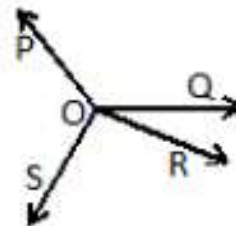


4 marks questions

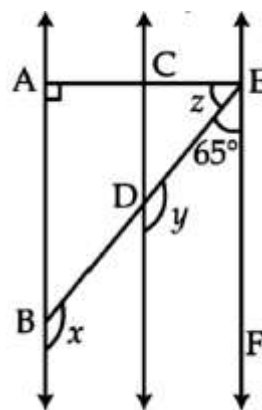
Q17. In the given figure, two straight lines PQ and RS intersect each other at O. If $\angle POT = 75^\circ$, find the values of a, b, c.



Q.18. In the figure, OP, OQ, OR and OS are four rays. Prove that $\angle POQ + \angle QOR + \angle SOR + \angle POS = 360^\circ$.

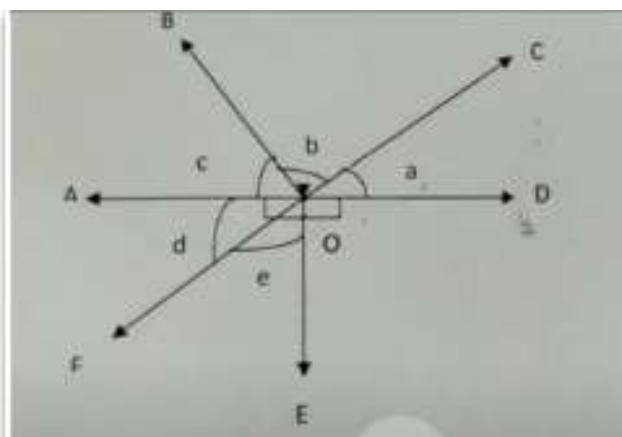


Q.19. In the given figure, $AB \parallel CD$ and $CD \parallel EF$. Also $EA \perp AB$ and $\angle BEF = 65^\circ$. Find the values of x, y and z.



Q.20. Case Study Based Question:

OA, OB, OC, OD, OE and OF are six roads and all join at a point 'O'. These roads make angles $\angle a$, $\angle b$, $\angle c$, $\angle d$ and $\angle e$ according to the figure. Roads OD and OE are perpendicular to each other. AD and CF are straight lines and intersect each other at 'O'. If $\angle a : \angle b : \angle c$ are in the ratio 2 : 3 : 4. A teacher showed this figure to all the students and asked the following questions.



- (i) What is the angle between roads OB and OC?
- (ii) What is the measure of $\angle d$?
- (iii) Write a pair of complementary angles from the figure.
- (iv) Find the measure of $\angle BOD$.

Answers

Answers	1.	B	2.	B	3.	C	4.	C	5.	D
	7.	60°	8.	141°	9.	135°	10.	95°	11.	60°
	12.	255°	16.	120°	17.	$84^\circ, 21^\circ, 48^\circ$	19.	$x = 115^\circ, y = 115^\circ$ $z = 25^\circ$	20.	(i) 60° (ii) 40° (iii) $\angle d$ and $\angle e$ (iv) 100°