

# INDIAN SCHOOL AL WADI AL KABIR

**Class VII**, Mathematics *Worksheet- Lines and Angles*

**25-10-2020**

## OBJECTIVE TYPE (1 Mark)

<b>Q.1.</b>	The complement of the $63^\circ$							
	<b>A</b>	30°	<b>B</b>	33°	<b>C</b>	27°	<b>D</b>	60°
<b>Q.2.</b>	A linear pair of angles are							
	<b>A</b>	supplementary	<b>B</b>	complementary	<b>C</b>	adjacent	<b>D</b>	Both A and C
<b>Q.3.</b>	Find the supplement of $\frac{1}{2}$ of a right angle.							
	<b>A</b>	135°	<b>B</b>	145°	<b>C</b>	95°	<b>D</b>	45°
<b>Q.4.</b>	<div style="text-align: center;"> </div> <p style="text-align: center;">In the given figure if <math>\angle 1 = 65^\circ</math>, find the measure of <math>\angle 2</math>.</p>							
	<b>A</b>	115°	<b>B</b>	110°	<b>C</b>	120°	<b>D</b>	105°
<b>Q.5.</b>	Which of the following pairs of angles are not complementary?							
	<b>A</b>	130° and 50°	<b>B</b>	20° and 70°	<b>C</b>	45° and 45°	<b>D</b>	40° and 50°
<b>Q.6.</b>	The number of points at which a pair of intersecting lines can meet each other is							
	<b>A</b>	0	<b>B</b>	2	<b>C</b>	8	<b>D</b>	1
<b>Q.7.</b>	A line that intersects two or more lines at distinct points is called a							
	<b>A</b>	parallel	<b>B</b>	intersecting	<b>C</b>	transversal	<b>D</b>	Prime n

**Q.8.**

In the given figure, the value of x is

<b>A</b>	$96^\circ$	<b>B</b>	$106^\circ$	<b>C</b>	$16^\circ$	<b>D</b>	$60^\circ$
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**Q.9.** Which of the following is true if a pair of parallel lines are cut by a transversal

<b>A</b>	Co-interior angles are supplementary	<b>B</b>	Corresponding angles are equal	<b>C</b>	Alternate interior angles are equal	<b>D</b>	All of these
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**Q.10**

In the given figure, the value of x is

<b>A</b>	$109^\circ$	<b>B</b>	$71^\circ$	<b>C</b>	$19^\circ$	<b>D</b>	$70^\circ$
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**Fill in the blanks (1mark)**

**Fill in the blanks by naming the angles with respect to the given figure**

**Q11** The lines that are at equal distance apart and never meet each other are called \_\_\_\_\_.

**Q12.** Two adjacent angles are said to form a \_\_\_\_\_ if their non-common arms are two opposite rays.

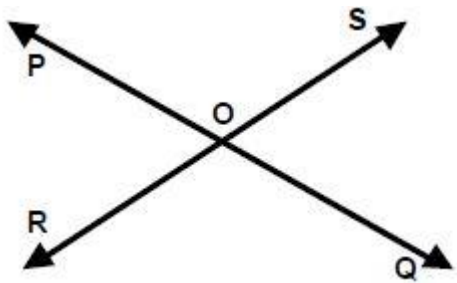
**Q13.** The supplement of  $135^\circ$  is \_\_\_\_\_.

**Q14.** If two parallel lines are cut by a transversal, then the pair of co-interior angles are \_\_\_\_\_.

**Q15.** If two parallel lines are cut by a transversal, then the pairs of \_\_\_\_\_ angles and \_\_\_\_\_ formed are equal in measure.

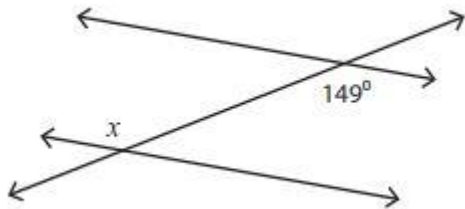
**SECTION B (2 marks )**

Q16.



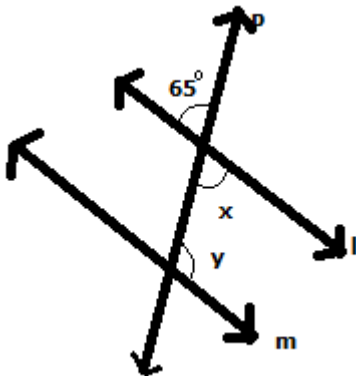
In the given figure, if  $\angle POR = 50^\circ$ , find  $\angle QOR$  and  $\angle QOS$ . Give reasons for your answer.

Q17.



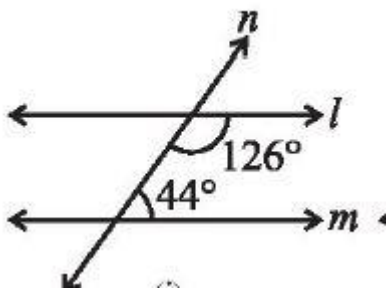
Find the value of  $x$  in the given figure. Also find the supplement of  $x$ .

Q18.



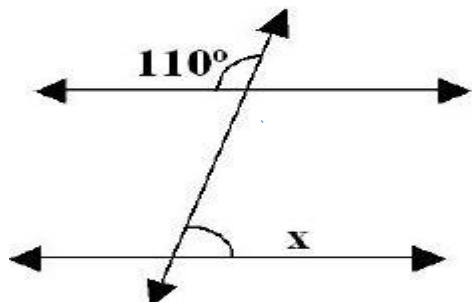
$l$  and  $m$  are parallel lines cut by a transversal  $p$ . If one angle is  $65^\circ$ , find the value of  $x$  and  $y$ . Give reasons to support your answer.

Q19.



Check whether the given lines  $l$  and  $m$  are parallel. Give reasons.

Q20.



Find the value of  $x$  in the given figure.

**SECTION C (4marks)**

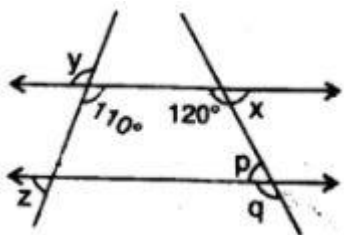
Q21. Match the following

COLUMN 1		COLUMN 2	
i	Equal alternate interior angles	a)	Adjacent angles
ii	Common vertex and common arm	b)	Always equal in measure
iii	Vertically opposite angles	c)	Together makes a straight line
iv	Linear pair	d)	Parallel lines
		e)	complementary

Q22. State whether the following statements are true or false.

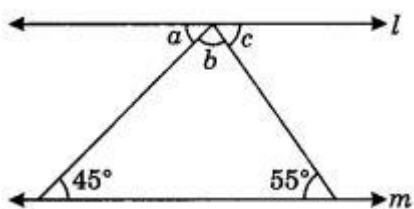
- a) The non-common arms of any two adjacent angles form a straight line.
- b) If a pair of parallel lines are cut by a transversal, the co-interior angles are equal in measure.
- c) A pair of straight lines can meet each other only at one single point.
- d) A pair of parallel lines cut by a transversal gives rise to 8 distinct angles.

Q23.



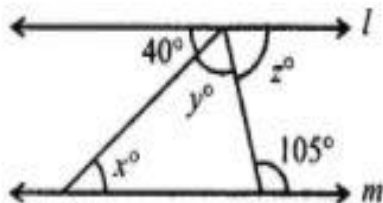
Find the value of the angles  $x, y, z, p, q$  formed by two transversals on a pair of parallel lines as shown in the given figure. Give reasons in each case.

Q24.



Find the value of  $a, b, c$  in the given figure, where  $l$  and  $m$  are a pair of parallel lines. Give reasons in each case.

Q25.



Find the value of  $x, y$  and  $z$ . Give reasons in each case.

<b>Answers</b>	<b>1</b>	C) $27^\circ$	<b>2</b>	D) Both A and C	<b>3.</b>	A) $135^\circ$	<b>4</b>	A) $115^\circ$
	<b>5</b>	A) $130^\circ$ and $50^\circ$	<b>6</b>	D) 1	<b>7</b>	C) transversal	<b>8</b>	B) $106^\circ$
	<b>9</b>	D) All of these	<b>10</b>	B) $71^\circ$	<b>11</b>	Parallel lines	<b>12</b>	Linear pair
	<b>13</b>	$45^\circ$	<b>14</b>	Supplementary	<b>15</b>	Alternate interior angles and corresponding angles	<b>16</b>	$\angle QOR = 180^\circ - 50^\circ = 130^\circ$ $\angle QOS = 50^\circ$ (Vertically opposite angles)
<b>17</b>	$x = 149^\circ$ (alternate interior angles)	<b>18</b>	$x = 65^\circ$ (vertically opposite angles) $y = 180^\circ - 65^\circ = 115^\circ$ (co-interior angles)	<b>19</b>	Sum of co-interior angles, $126^\circ + 44^\circ = 170^\circ$ (not supplementary). Therefore not parallel	<b>20</b>	Supplement of $110^\circ = 180^\circ - 110^\circ = 70^\circ$ Therefore, $x = 70^\circ$ (alternate interior angles)	
<b>21</b>	i) - d) parallel lines ii) - a) adjacent angles iii)- b) always equal in measure iv) -c) together makes a straight line.	<b>22</b>	a) False b) False c) True d) True	<b>23</b>	$x = 180^\circ - 120^\circ = 60^\circ$ (Linear pair) $y = 110^\circ$ (vertically opposite angles) supplement of $y = 180^\circ - 110^\circ = 70^\circ$ $z = 70^\circ$ (corresponding angles) $p = x = 60^\circ$ (alternate interior angles) $q = 180 - 60 = 120^\circ$	<b>24</b>	$a = 45^\circ$ (alternate interior angles) $c = 55^\circ$ (alternate interior angles) $b = 180 - (45 + 55) = 180 - 100 = 80^\circ$	
<b>25</b>	$x = 40^\circ$ (alternate interior angles) $l = 180 - 105^\circ = 75^\circ$ $y = 180 - (40 + 75) = 180 - 115 = 65^\circ$							

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