

# **Lines and Angles**

**Class VI Mathematics – Worksheets**

# LINES AND ANGLES

## WORKSHEET -1

### Section A: MCQs (PART-1)(10 × 1 = 10 marks)

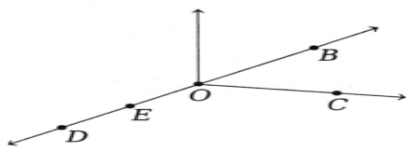
1. -----has no length, breadth and height.

- (a) point      (b) ray      (c) line segment      (d) None of these

2 A -----is a portion of a line that starts at one point and goes on endlessly in a direction.

- (a) point      (b) ray      (c) line segment      (d) line

3. How many points does the given figure has



- (a) 5      (b) 4      (c) 3      (d) 6

4. A line segment has

- (a) definite length but no end points      (b) infinite length but no end point  
(c) definite length and have end points      (d) None of the above

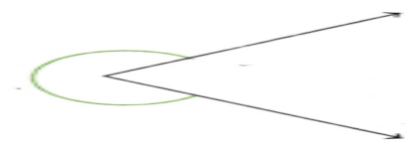
5. How many lines pass through two given points?

- (a) One      (b) Two      (c) Many      (d) None

6. Which angle is less than  $90^\circ$ ?

- a) Right      b) Obtuse      c) Straight      d) Acute

7 What is the name of angle in the given figure?



- (a) Right      (b) Acute      (c) Reflex      (d) Obtuse

8 A protector is used to draw and measure -----

- a) angles      b) line segments      c) triangle      d) none of these

9. The measure of straight angle is

- a)  $90^\circ$       b)  $45^\circ$       c)  $180^\circ$       d)  $60^\circ$

10. There can be at least -----sides to form a polygon.

- a) 2      b) 3      c) 4      d) 5

**MCQs (PART-2)(10 × 1 = 10 marks)**

11. Which of the following has one endpoint and extends endlessly in one direction?

- a. Line                      b. Ray                      c. Line segment                      d. Point

12. Which statement is always true?

- a. A line has one endpoint.                      b. A ray has two endpoints.  
c. A line segment has exactly two endpoints.                      d. A point has length.

13. Which object best represents a line segment?

- a. A stretched rope tied at both ends                      b. Sun rays  
c. Railway track extending forever                      d. Beam of light from a lighthouse

14. If two rays have the same starting point, they form a:

- a. Line                      b. Line segment                      c. Angle                      d. Point

15. In  $\angle PQR$ , which point is the vertex?

- a. P                      b. Q                      c. R                      d. Both P and R

16. Which of the following angles is an acute angle?

- a.  $35^\circ$                       b.  $90^\circ$                       c.  $120^\circ$                       d.  $180^\circ$

17. Which of the following is an obtuse angle?

- a.  $60^\circ$                       b.  $90^\circ$                       c.  $135^\circ$                       d.  $45^\circ$

18. A straight angle measures:

- a.  $90^\circ$                       b.  $180^\circ$                       c.  $270^\circ$                       d.  $360^\circ$

19. A right angle is equal to:

- a. Half of a straight angle                      b. Half of a full angle  
c. Double a straight angle                      d. One-third of a full angle

20. While measuring an angle with a protractor, the centre of the protractor should be placed on the:

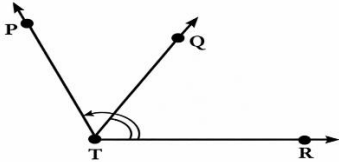
- a. End of one arm                      b. Middle of one arm  
c. Vertex of the angle                      d. Longer arm

## WORKSHEET -2

### Section B: Short Answer ( $10 \times 2 = 20$ marks)

1. The hands of a clock show 9 O'clock. Find the angle between the hands. Is it acute, right, obtuse, or straight?

2. Name the angles marked in the given figure



3. . Draw angles with the following degree measures:

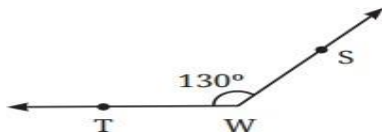
a)  $140^\circ$

b)  $70^\circ$

4(i) Triangle has ----- sides .      (ii) Triangle has ----- angles .

5. Draw right angle and straight angle

6. Write the type of angle



7. The given picture is a good example of



Beam of light from a lighthouse

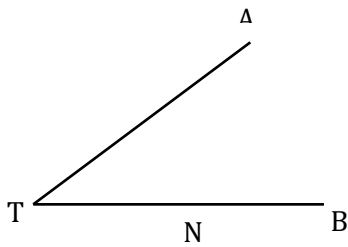
8. Draw any reflex angle.

9. Write how many right angles in your classroom.

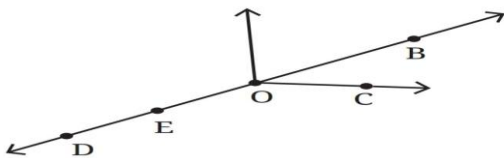
10. What is reflex angle?

**Section C: Short Answer ( $6 \times 3 = 18$  marks)**

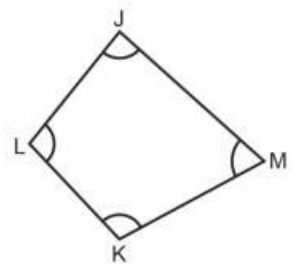
11. Name a) Starting point of each ray    b) Two rays    c) Write an example of ray from our nature



12 Write a.) Five points    b.) A line.    c.) Four rays



13. i ) Name the type of polygon in the give fig. ii ) Name the vertices



14 The Ashoka Chakra has 24 spokes. What is the degree measure of the angle between two spokes next to each other? What is the largest acute angle formed between two spokes?

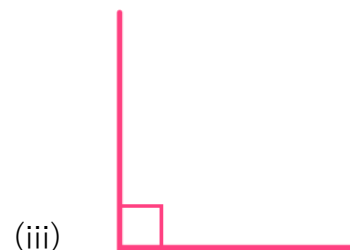
15. Give three examples of angles from your environment.

16. What will be the angle at 1 o'clock? and at 2 o'clock ? 4 o'clock

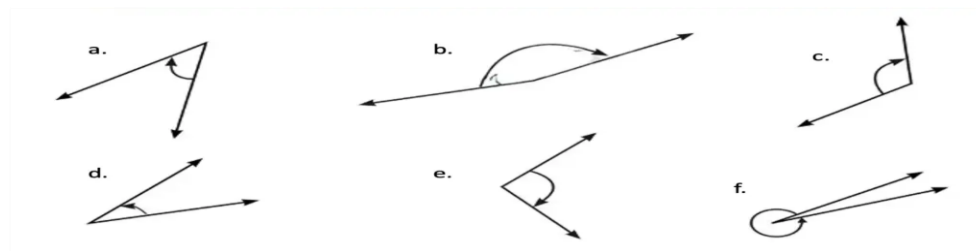


**Section D: Long Answer ( $4 \times 5 = 20$  marks)**

17. Write types of angles



18 Estimate the angles.



19. Draw the letter 'M' such that the angles on the sides are  $40^\circ$  each and the angle in the middle is  $60^\circ$ .



20. Draw the letter 'Y' such that the three angles formed are  $150^\circ$ ,  $60^\circ$ , and  $150^\circ$ .



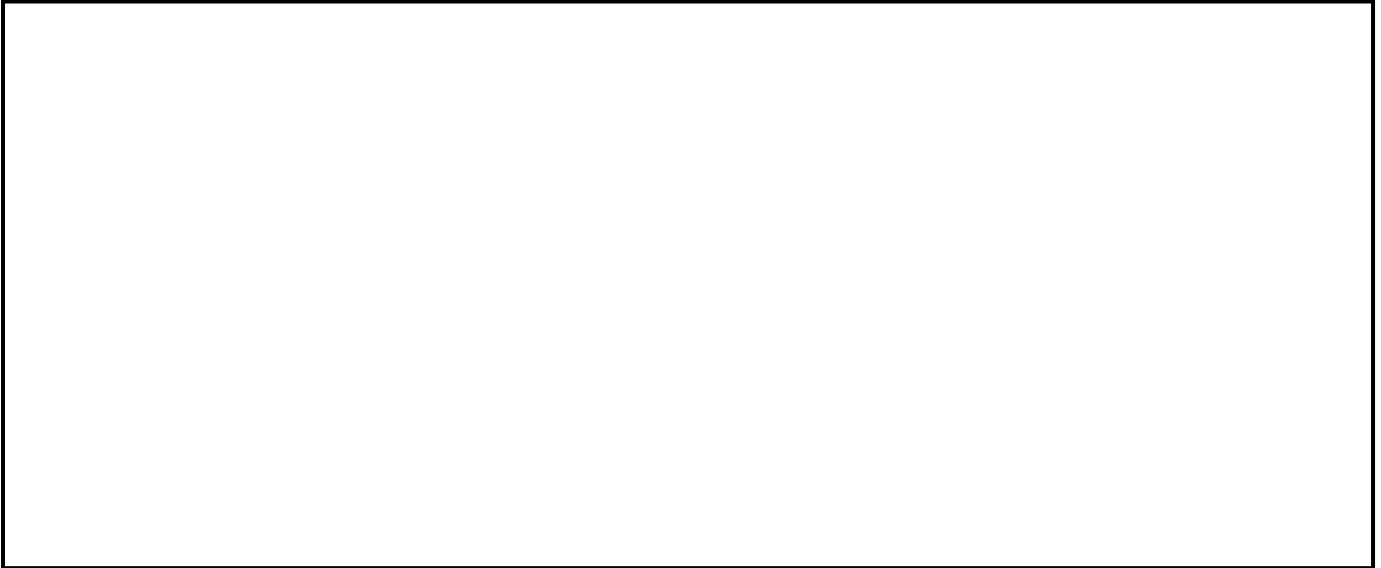
### Case Study Based Questions ( $2 \times 4 = 8$ marks)

21. Mrs Namita, a maths teacher is guiding her class to identify the angles in English alphabets, like three acute angles and two obtuse angles in A.

Based on the above information answer the following questions

(a) Which letter represents only a right angle?

(ii) Which two letters represent only 4 right angles?

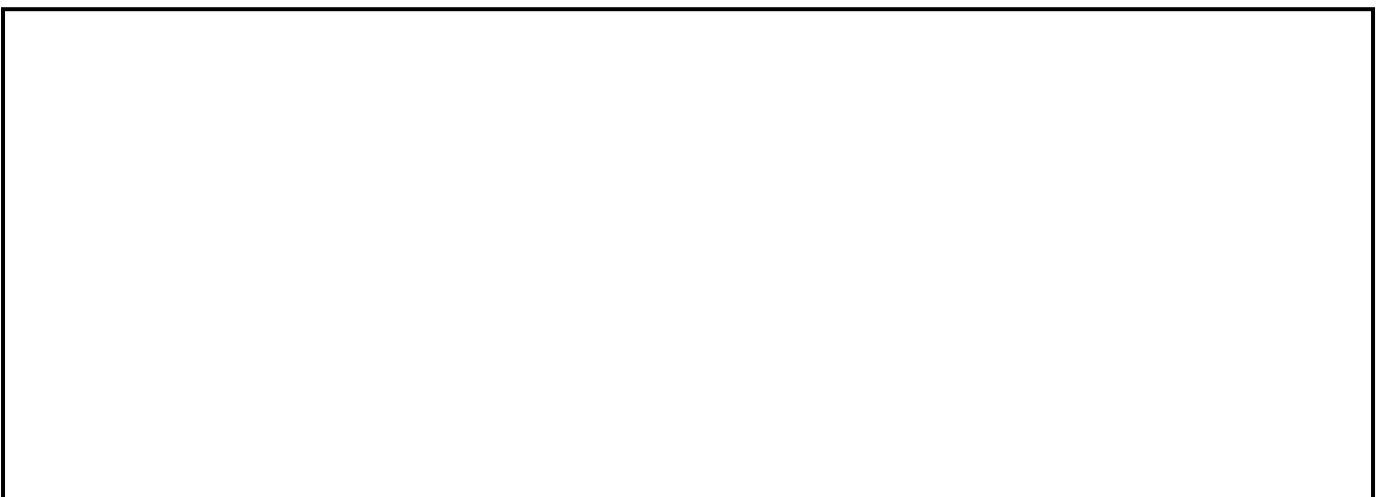


22. In a bustling city park, three friends, Alice, Ben, and Chloe, were discussing their afternoon plans. They were standing at a central intersection where three paved walking paths met. Alice pointed to the paths, noting the angles they formed. "Look," she said, "the path to the cafe and the one to the playground form a  $120^\circ$  angle. And the path to the playground and the one to the rose garden form a  $95^\circ$  angle."

(a) Find the measure of the third angle.

(b) What is the type of the third angle?

(c) What is the sum of the three angles?



**Self Assessment:**

I understood all the concepts

☐ Yes

☐ No

I need more practice

☐ Yes

☐ No

Name of Concepts having doubts/Not Cleared: \_\_\_\_\_

**Parent's Assessment:**

My ward understood all the concepts

☐ Yes

☐ No

He/She need more practice

☐ Yes

☐ No

Name of Concepts having doubts/Not Cleared: \_\_\_\_\_

**Signature of Parent:**

**Teacher's Assessment**

|  |
|--|
|  |
|--|

### Answers of Worksheet-1

|       |    |    |    |    |   |   |   |   |   |    |    |    |    |    |    |    |
|-------|----|----|----|----|---|---|---|---|---|----|----|----|----|----|----|----|
| Q.No. | 1  | 2  | 3  | 4  | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| Ans   | a  | b  | a  | c  | a | d | c | a | c | b  | b  | c  | a  | c  | b  | a  |
| Q.No. | 17 | 18 | 19 | 20 |   |   |   |   |   |    |    |    |    |    |    |    |
| Ans   | c  | b  | a  | c  |   |   |   |   |   |    |    |    |    |    |    |    |

### Answers of Worksheet-2

|       |                            |                                       |                           |                           |                           |                                           |                |                                                      |
|-------|----------------------------|---------------------------------------|---------------------------|---------------------------|---------------------------|-------------------------------------------|----------------|------------------------------------------------------|
| Q.No. | 1                          | 2                                     | 3                         | 4                         | 5                         | 6                                         | 7              | 8                                                    |
| Ans   | Right                      | <RTQ,<br><RTP                         | Draw<br>correct<br>angles | 3,3                       | Draw<br>correct<br>angles | Obtuse                                    | Ray            | Draw<br>correct<br>angles                            |
| Q.No. | 9                          | 10                                    | 11                        | 12                        | 13                        | 14                                        | 15             | 16                                                   |
| Ans   | Draw<br>correct<br>angles  | More than<br>180 and less<br>than 360 | T, TA,<br>TB              |                           | Quad, K,<br>M, J, L       | 15 <sup>0</sup> ,75 <sup>0</sup>          | DO<br>yourself | 30 <sup>0</sup> ,60 <sup>0</sup><br>120 <sup>0</sup> |
|       | 17                         | 18                                    | 19                        | 20                        | 21                        | 22                                        |                |                                                      |
|       | Acute,<br>obtuse,<br>right | Estimate<br>correct<br>angles         | Draw<br>correct<br>angles | Draw<br>correct<br>angles | Ram,35,90                 | 145 <sup>0</sup> ,obtuse,360 <sup>0</sup> |                |                                                      |