



MATHS

NCERT - NCERT MATHS(TELUGU)

MEASURES OF LINES AND ANGLES

Exercise

1. How can you compare two line segments?



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2. What other errors can you find while measuring the length of line segment?



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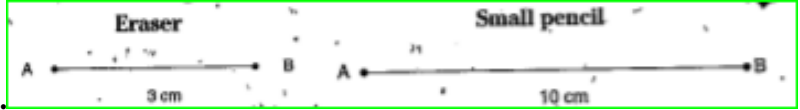
3. Take a post card and measure the length and breadth with ruler and divider. Do all post cards have the same dimensions?



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4. select objects eraser, small pencil. trace their length on a paper. Measure the length of these lines

segments.



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5. Give any five examples of line segment observed in your classroom. Eg: Edge of black board.



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6. Why is it better to use a divider than a ruler, while comparing two line segments?



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7. Measure all the line segments in the figure given below and arrange them in the ascending order of their lengths. Line segments \overline{AB} , \overline{AC} , \overline{AD} , \overline{AE} , \overline{BC} , \overline{BD} , \overline{BE} , \overline{CD} , \overline{CE} , \overline{DE}



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8. Mid point of \overline{AB} is located by Swetha and Reshma like this. Which one do you feel correct? Measure the lengths of \overline{AC} , \overline{CB} and verify.



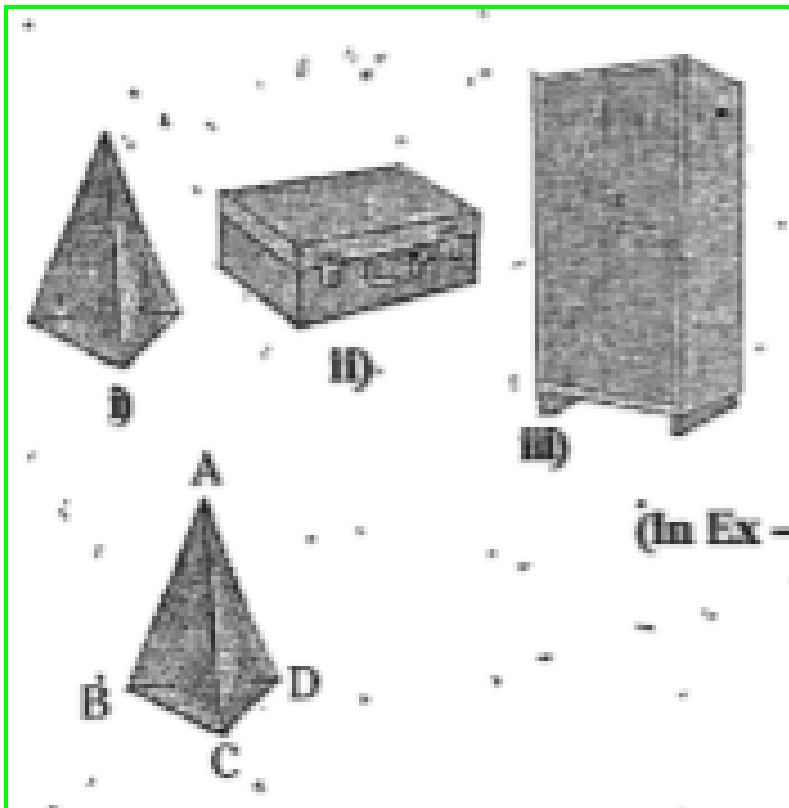
Swetha



Reshma



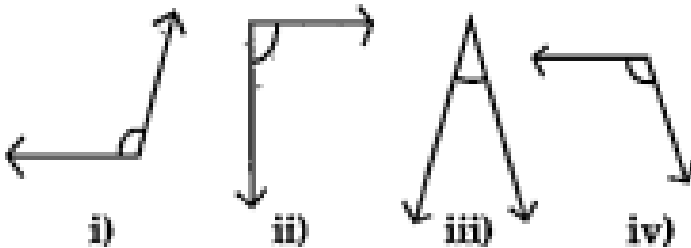
9. Each of these figures given along side has many line segments. For the almirah we have shown on the line segment along the longer edge. Identify and mark all such line segments in these figures.





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10. Use the “straw angle apparatus” and identify the following angles.

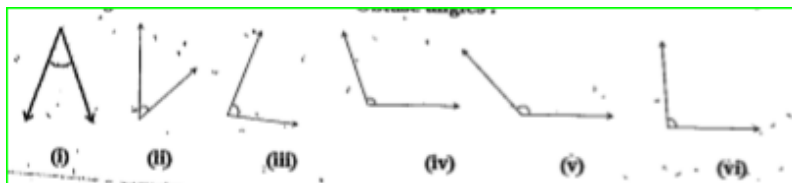


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11. Draw some angles of your choice . Test them by the " angle apparatus " and write which are acute and which

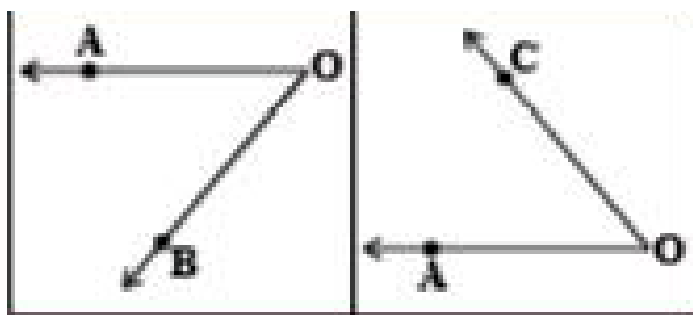
are

obtuse.



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12. In the adjacent figure $\angle AOB$ and $\angle AOC$ are given. Which angle is clock-wise and which angle is anti clock-wise. Think and discuss with your firends.



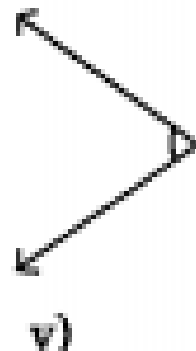
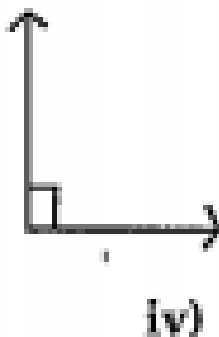
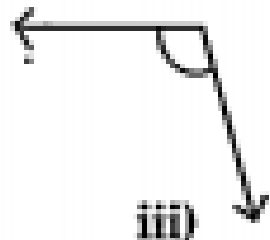
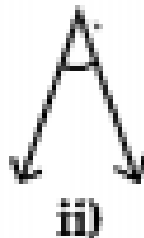
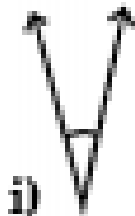
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13. what are types of angles?



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14. Which are acute angles? Find and write their

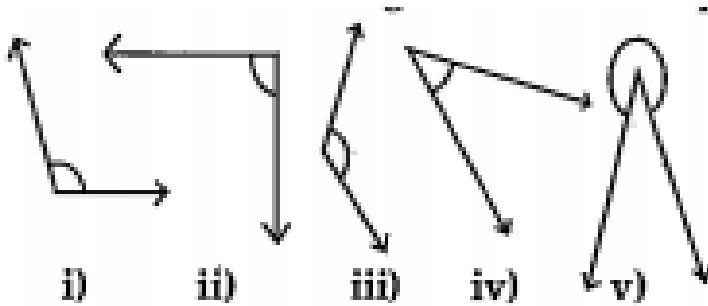


measures.



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15. Which are obtuse angles?



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16. Simplify the expression and find the value if x is equal to 5: $3(x+2)+5x-7$



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17. Classify the following angles into acute, right, obtuse and straight angles: 40° , 140° , 90° , 210° , 44° , 215° , 345° , 125° , 10° , 120° , 89° , 270° , 30° , 115° , 180° .



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18. Write “True” or “False”. Correct all those that are false: An angle smaller than right angle is acute angle.



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19. Write “True” or “False”. Correct all those that are false: A right angle measures 180° .



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20. Write “True” or “False”. Correct all those that are false: A straight angle measures 90° .



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21. Write “True” or “False”. Correct all those that are false: The measure greater than 180° is a reflex angle.



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22. Write “True” or “False”. Correct all those that are false: A complete angle measures 360° .



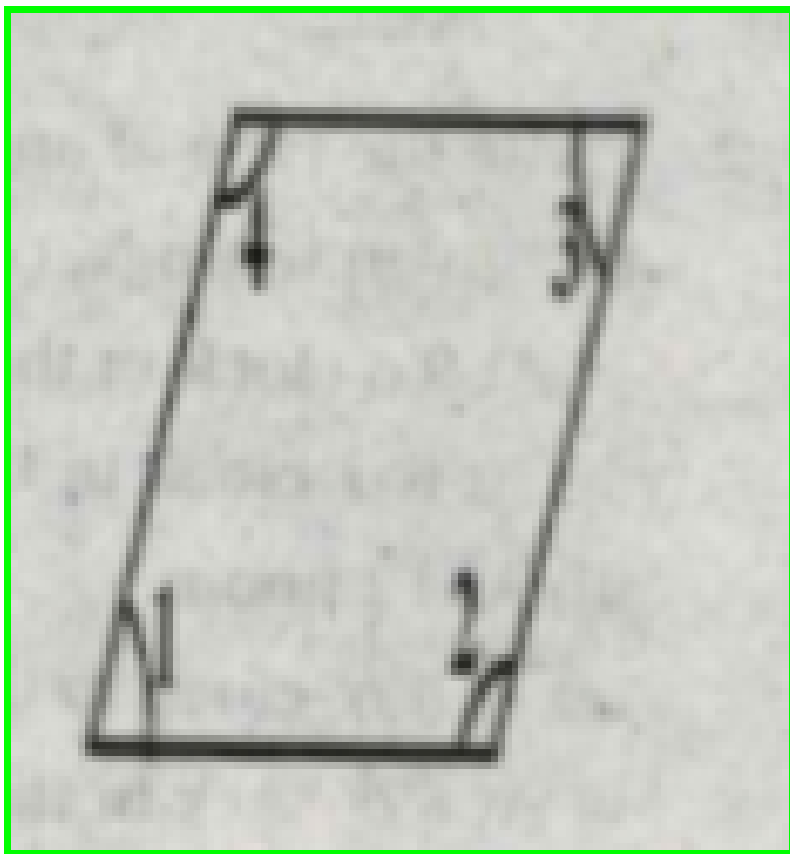
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23. Which angles in the adjacent figure are acute and which are obtuse ? Check your estimation by

measuring them. Write their

measures

too.



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24. What is the measures of these angels. Which is the largest angel? Draw an angel larger than the largest

angel.



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25. Write the type of angle formed between the long hand and short hand of a clock at the given timings. (Take the small hand as the base) i) At 9'O clock in the morning, ii) At 6'O clock in the evening, iii) At 12 noon, iv) At 4'O clock in the afternoon, v) At 8'O clock in the night.



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26. Draw any two separate lines in a plane. Do they intersect at more than one point?



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27. How many perpendicular lines can be drawn to a given line?



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28. Which letters in English alphabet possess perpendicular lines ?



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29. Draw two lines on a paper as shown below. Do they intersect each other? Can you call them parallel lines? Give reason.



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30. Make a pair of parallel lines what is the angle formed between them? Think, discuss with your friends and teacher.



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31. Which of the following are models for parallel lines, perpendicular lines and which are neither of them. i) The vertical window bars, ii) Railway lines (track), iii) The adjacent edges of door, iv) The letter 'V' in English Alphabet, v) The opposite edges of a Black Board.



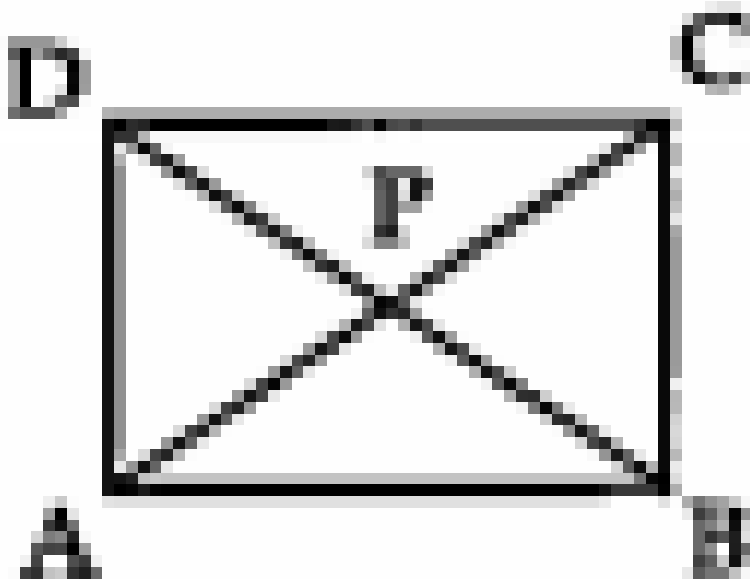
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32. Trace the copy of set squares(Geometry box) on a paper and mark the perpendicular edges.



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33. ABCD is a rectangle. \overline{AC} and 'overline (BD)' are diagonals. Write the pairs of parallel lines, perpendicular lines and intersecting lines from the figure in symbolic form. a) Parallel lines, b) Perpendicular lines, c) Pair of intersecting lines.



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34. If $\overline{AB} \perp \overline{BC}$ and $\overline{BC} \perp \overline{CD}$, then how are \overline{AB} , \overline{CD} ?



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35. If $\overline{AB} \parallel \overline{DC}$ and $\overline{CD} \parallel \overline{EF}$ then how are \overline{AB} , \overline{EF} ?



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36. Which of the following parts of your class room are parallel and perpendicular?



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37. Draw angle with measurements: 50°



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38. Draw angle with measurements: 105°



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39. Draw angle with measurements: 180° ,



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40. Draw angle with measurements: 170°



Watch Video Solution

41. Draw angle with measurements: 360°



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42. Draw angle with measurements: 0°



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43. Draw angle with measurements: 90° ?



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44. Find the angles between the two handles of a clock at the given timings? i) 3'O clock morning, ii) 10'O clock in the morning, iii) 7'O clock in the morning, iv) 9'O clock in the morning, v) 11'O clock in the night.



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45. Fill in the blanks: Any two distinct lines have _____ common points.



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46. Fill in the blanks: The angle between the two parallel lines is _____



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47. Fill in the blanks: The opposite faces of a duster are _____



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48. Fill in the blanks: _____ is the instrument to draw curves.



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49. Fill in the blanks: _____ instruments are used to draw perpendicular lines.



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50. Draw line segments of lengths 2.3cm, 3.5cm, 4.7cm, 5 cm, 6.1 cm.



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51. Express each of the following decimals in the $\frac{p}{q}$ form

47.22



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52. Express each of the following decimals in the $\frac{p}{q}$ form

73.22



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53. Express each of the following decimals in the $\frac{p}{q}$ form

54.5



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54. Express each of the following decimals in the $\frac{p}{q}$ form

90.5



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55. Express each of the following decimals in the $\frac{p}{q}$ form

109.2



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56. A boy goes towards East for 6 mts distance, then he turns left and goes 3 mts and again turns left and goes

for 4 mts. What is his position now?



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57. The minutes handle make 7 rotations since 12'O clock. Where is its position now?



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58. Express each of the following decimals in the $\frac{p}{q}$ form

66.65



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59. Express each of the following decimals in the $\frac{p}{q}$ form

77.55



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60. Fill in the blanks: If $l \perp m$ and $m \parallel n$ then l and n are _____



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61. Express each of the following decimals in the $\frac{p}{q}$ form

72.5



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62. Express each of the following decimals in the $\frac{p}{q}$ form

73.96



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63. Which of the English alphabets possess acute angles.



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64. Which of the English alphabets possess parallelism in their shapes.



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65. Fill in the blanks: The angle at the corner of a carrom board is _____



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66. Fill in the blanks: The opposite edges of Geometry boxes are _____



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67. Fill in the blanks: The opposite faces of a Road Roller is _____



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68. Fill in the Blanks: The diagonals of a rectangle are of _____



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69. Fill in the blanks: _____ is the angle between two handles of a clock when the time is 5 p.m.





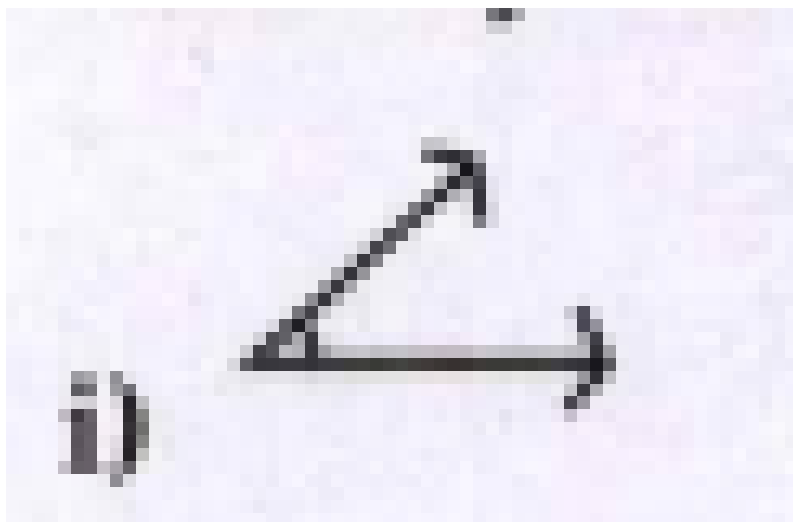
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70. Classify the angles into acute, obtuse angles 47° , 103° , 115° , 73° , 128° ,



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71. Identify the following angle.

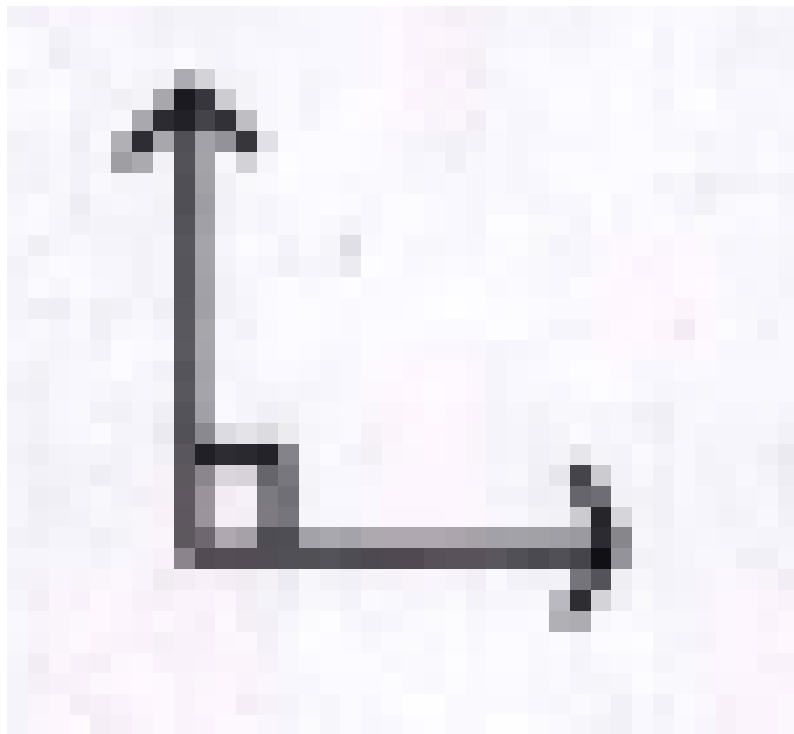


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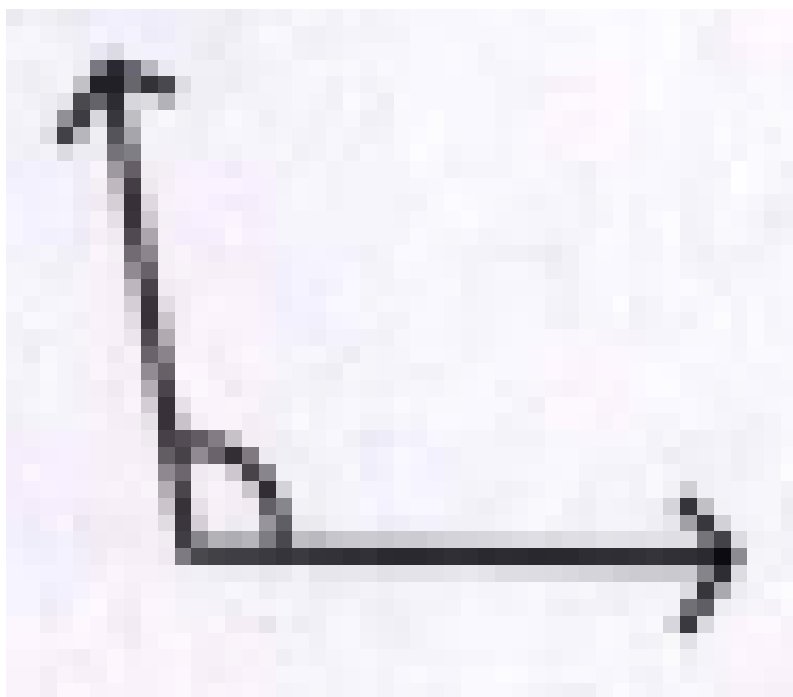
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72. Identify the following angle.



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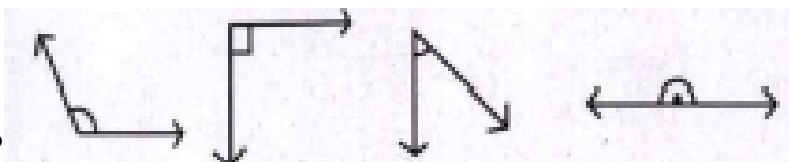
73. Identify the following angle.



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74. Which is greater? Which is smaller among the given

angles?





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75. Write 5 objects which have right angles?



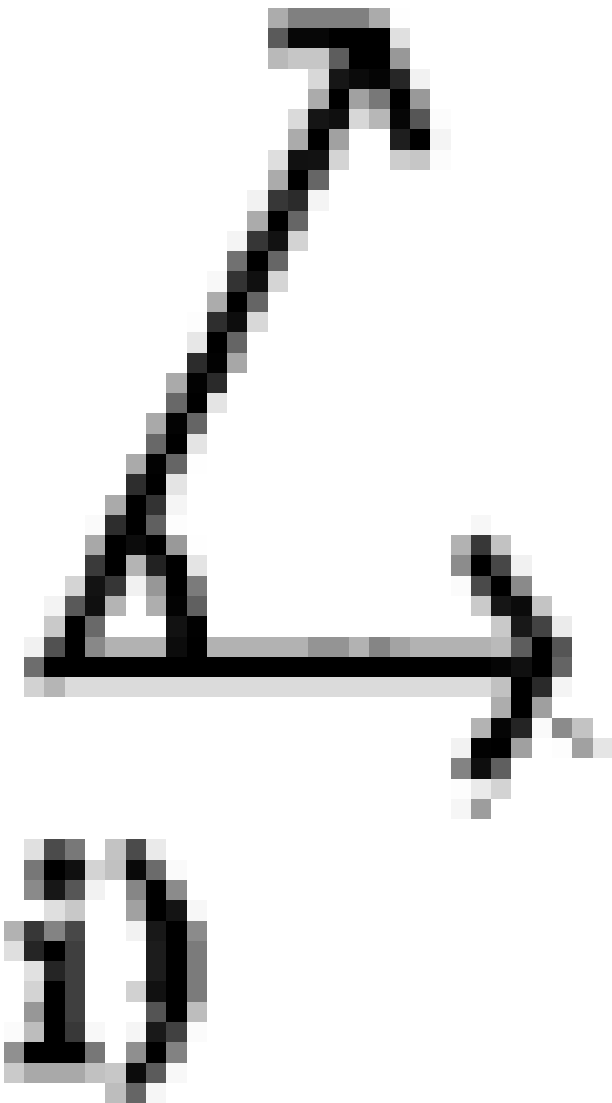
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76. Which of the following are models of parallel lines, perpendicular lines. i) Railway tracks. ii) Opposite edges of black board, iii) Adjacent sides of paper.



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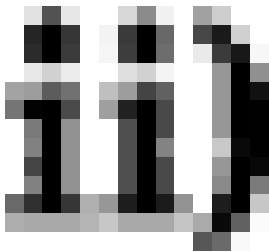
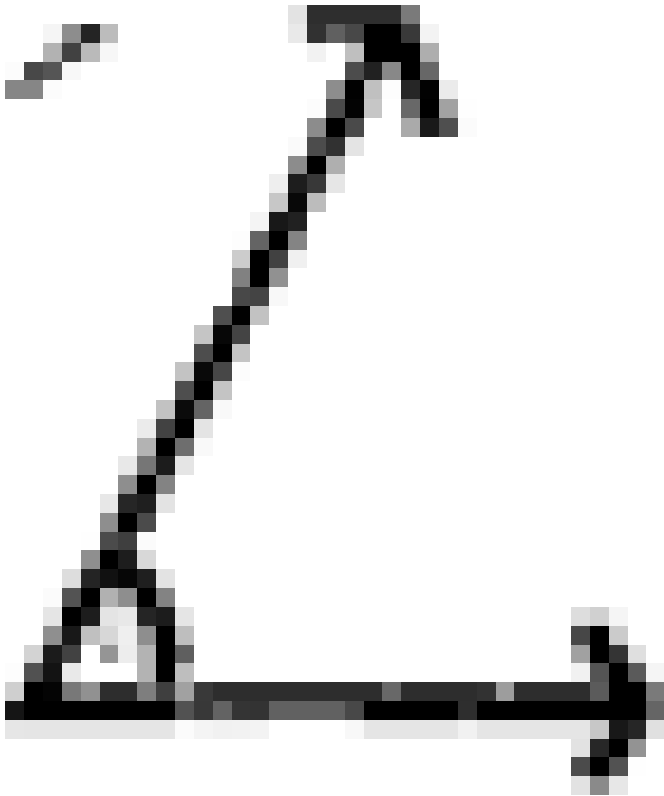
77. Measure the angle given below and write them?



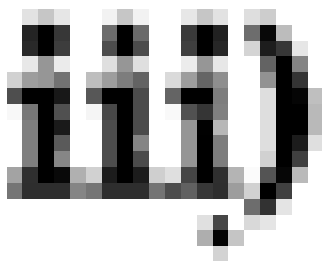
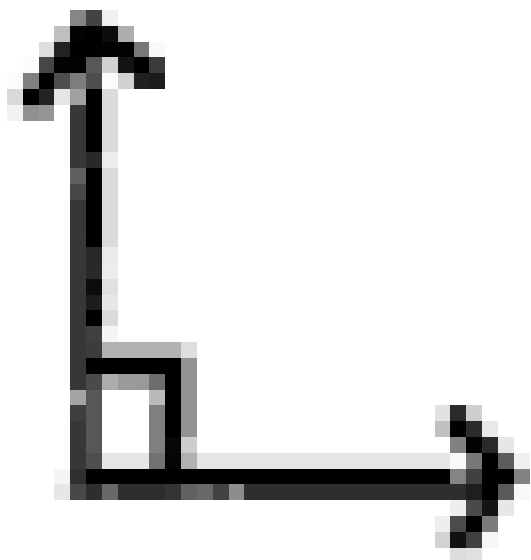


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78. Measure the angle given below and write them?



79. Measure the angle given below and write them?



80. Measure the angle given below and write them?

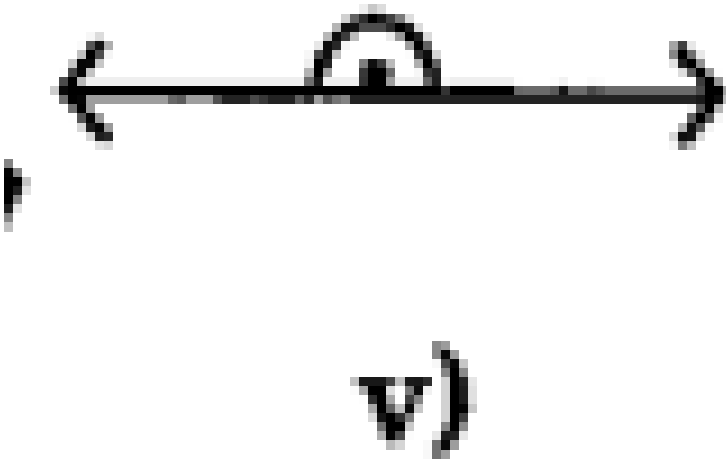


iv)



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81. Measure the angle given below and write them?



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82. Construct the angle with using protractor
construction : 75°



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83. Express each of the following decimals in the $\frac{p}{q}$ form

1.282



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84. Draw angle with measurements: 50°



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85. Draw angle with measurements: 105°



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86. Draw angle with measurements: 90° ?



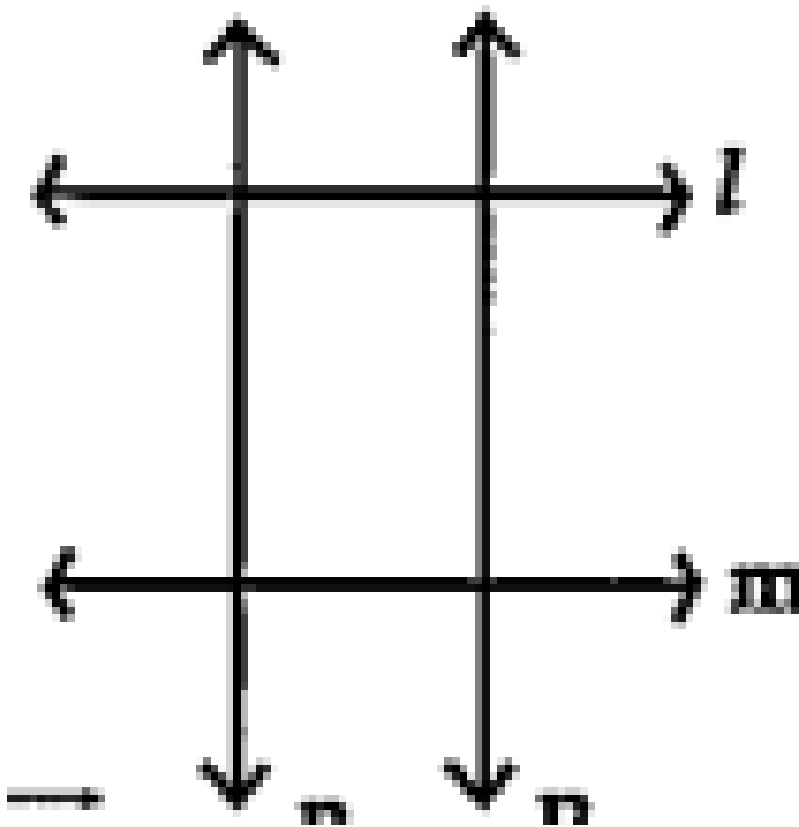
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87. Find the angles between the two handles of a clock at the given timings? i) At 12'O clock ii) At 3 p.m, iii) At 6 a.m, iv) At 9 a.m, v) At 5 a.m.



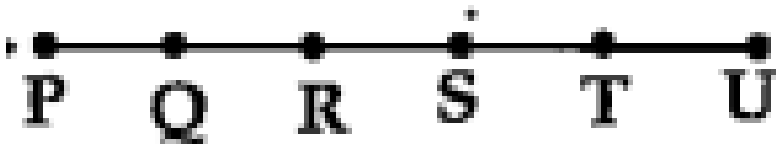
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88. observe the lines as in figure below. comment it.



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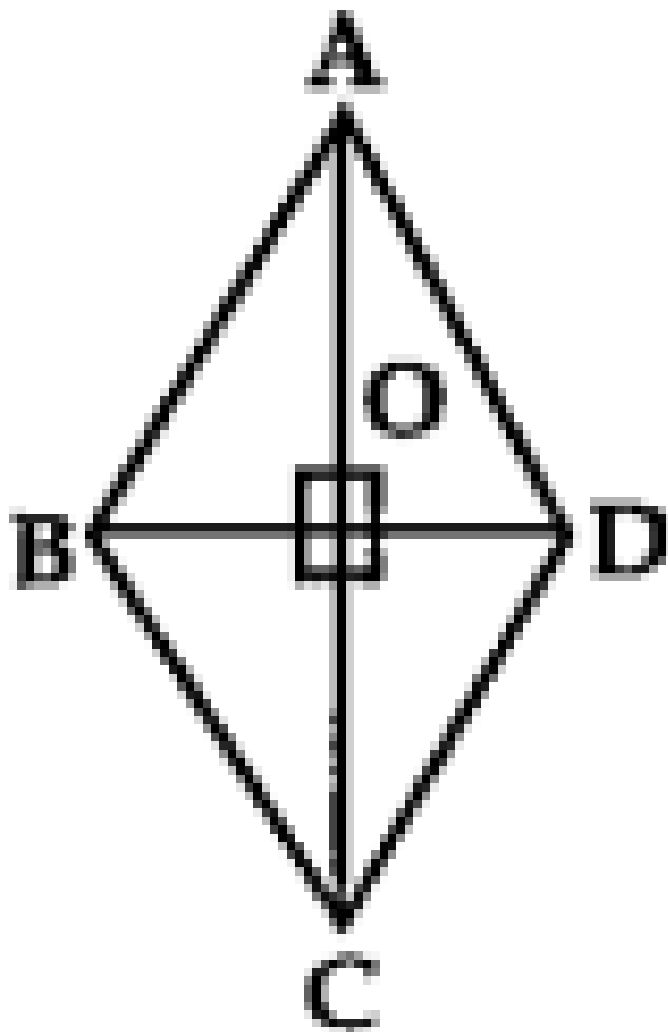
89. Measure the line segments in the figure given below and arrange them in the descending order.



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90. ABCD is a Rhombus. \overline{AC} , \overline{BD} , are its diagonals bisect at a point 'O'. Find $\angle AOB$, $\angle AOC$, $\angle AOD$, and

what is the angle at 'O' ?



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91. What are the angles at the corner of your carom board?



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92. Express each of the following decimals in the $\frac{p}{q}$ form

35.2



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93. The angle between two arms of a letter 'L'.



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94. Fill in the blanks: If the angle can't be measured between two rays, then they are said to be _____



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95. Fill in the blanks: If $\vec{l} \parallel \vec{m}$ and $\vec{m} \parallel \vec{n}$, then \vec{l} , and \vec{n} are _____



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96. Fill in the blanks: If $\overline{AB} = 7$ cms and C is the midpoint of \overline{AB} , then the relation between \overline{AB} , \overline{AC} , is



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97. The sum of the angles in a triangle is equal to two Right angles.



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98. Fill in the blanks: If $l \perp m$ and $m \parallel n$ then l and n are _____



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99. Fill in the blanks: If $\angle A = 80^\circ$, $\angle B = 70^\circ$, then $\angle C$
= _____ in a $\triangle ABC$.



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100. Draw intersecting and non-intersecting lines of
each?

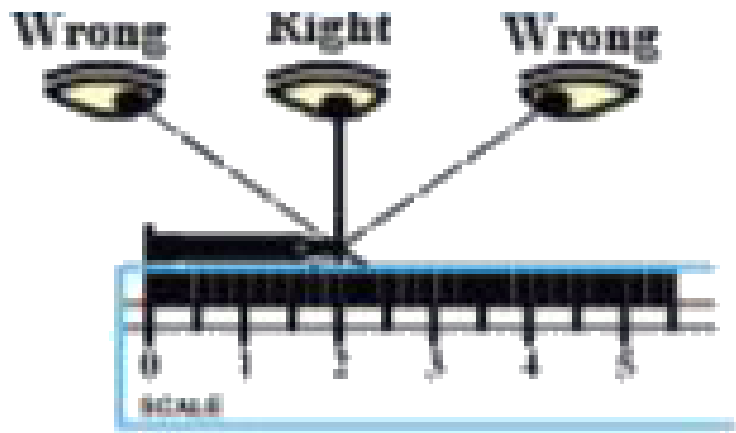


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Think Discuss And Write

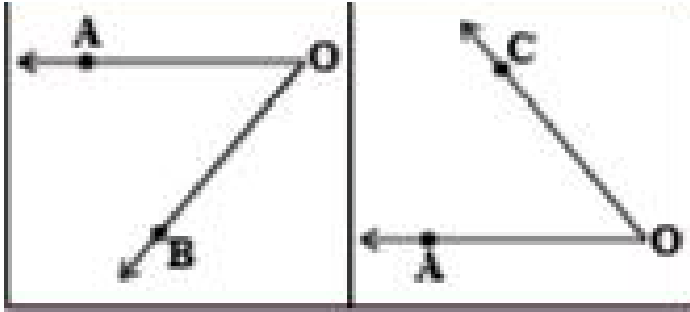
1. What other errors can you find while measuring the length of line segment ?

For example, to find the length of a pencil, the eye should be correctly positioned as shown in the figure i.e. just vertically above the mark for both points. Other wise there may be an error due to angular viewing.



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2. In the adjacent figure $\angle AOB$ and $\angle AOC$ are given. Which angle is clock-wise and which angle is anti clock-wise. Think and discuss with your friends.



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3. If $l \perp m$, then can we say that $m \perp l$?



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4. How many perpendicular lines can be draw to a given line ?



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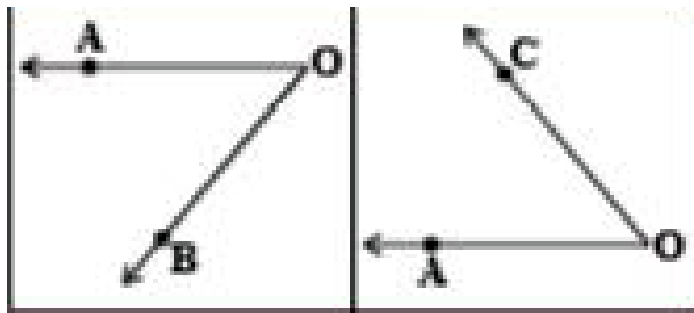
5. Which letters in English alphabet possess perpendicular lines ?



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6. In the adjascent figure $\angle AOB$ and $\angle AOC$ are given.
Which angle is clock-wise and which angle is anti clock-

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9. Which letters in English Alphabet possess perpendicularity?



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Try These

1. Write down a pair of integers whose: (a) sum is -7 . (b) difference is -10 . (c) sum is 0 .

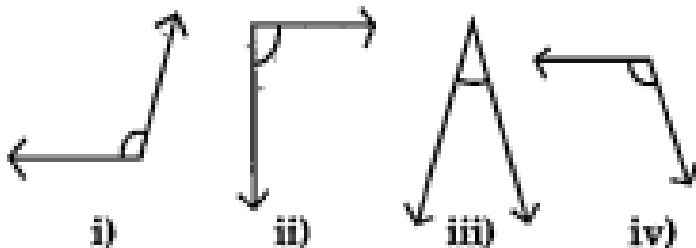


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2. Write a pair of negative integers whose difference gives 8. (b) Write a negative integer and a positive integer whose sum is -5 . (c) Write a negative integer and a positive integer whose difference is -3 .

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3. Use the “straw angle apparatus” and identify the following angles.



 **Watch Video Solution**

4. List out five daily life situations where you observe acute angles and obtuse angles.



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5. Q1. Arbaz plans to tile his kitchen floor with green square tiles. Each side of the tile is 10 cm. His kitchen is 220 cm in length and 180 cm wide. How many tiles will he need?



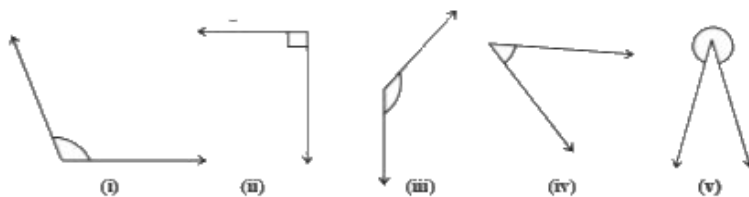
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6. Which are acute angles? Find and write their measures.



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7. Which are obtuse angles ?



 [Watch Video Solution](#)

8. Draw any two acute and two obtuse angles of your choice.



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9. Classify the following angles into acute, right, obtuse

and straight angles: 40° , 140° ,

90° 210° 44° 215° 345° 125° 10° 120° 89° 270° 30° 115° 180°

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10. Draw any two separate lines in a plane. Do they intersect at more than one point?



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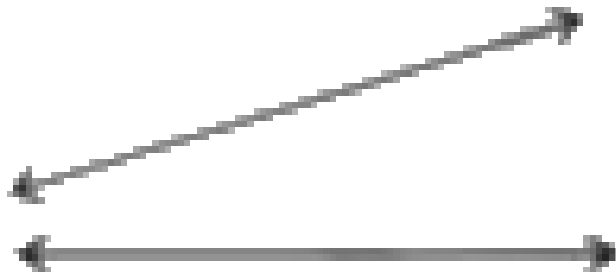
11. Find the angle which is equal to its supplement.



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12. Draw two lines on a paper as shown below. Do they intersect each other? Can you call them parallel lines? Give reason. Make a pair of parallel lines what is the angle formed between them ? Think, discuss with your

friends and teacher.

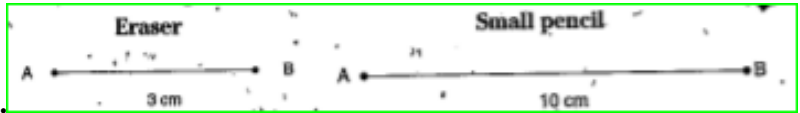


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13. Take a post card and measure the length and breadth with ruler and divider . Do all post cards have the same dimensions?

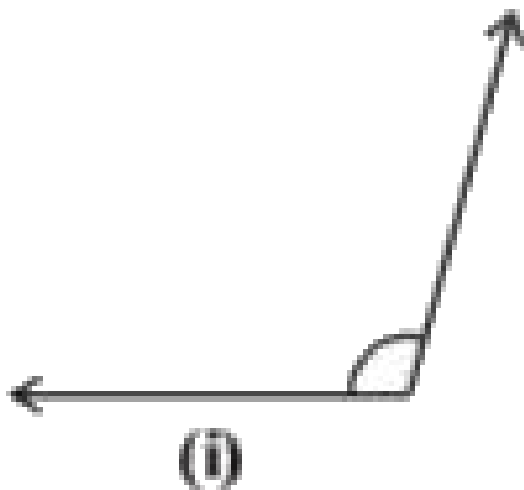
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14. select objects eraser , small pencil. trace their length on a paper. Measure the length of these line segments.



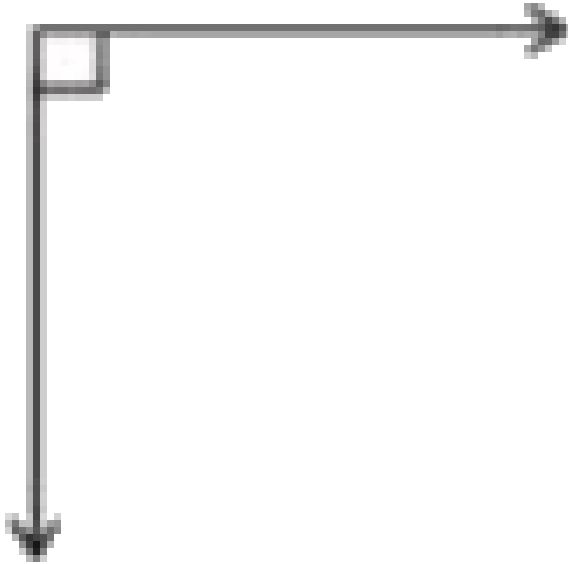
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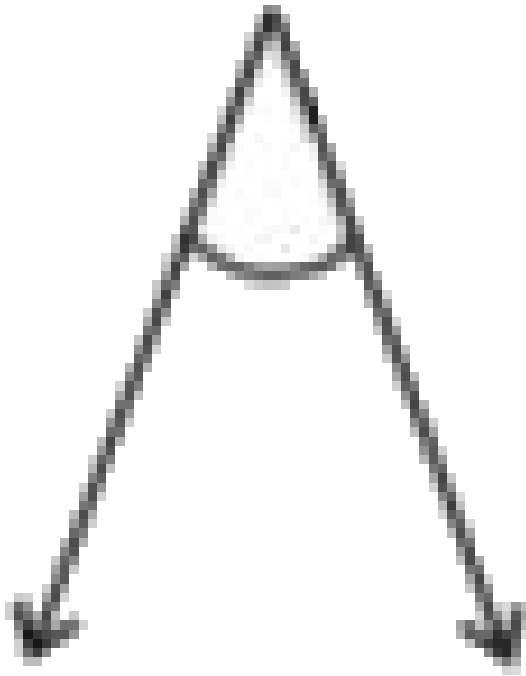
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16. Use the 'straw angle apparatus' and identify the following angles.



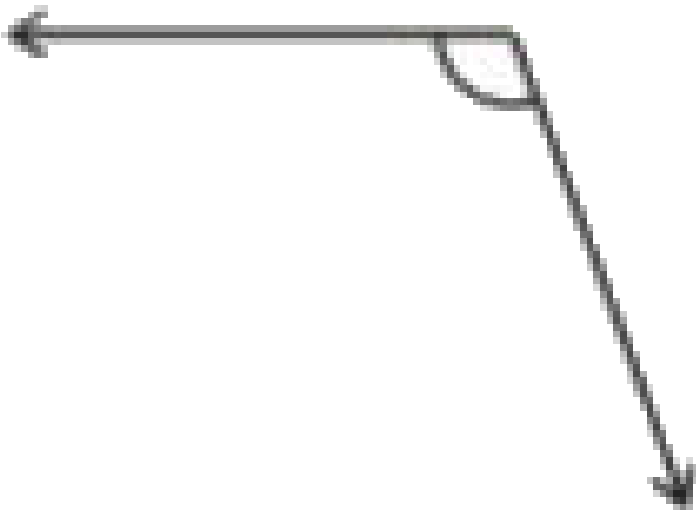
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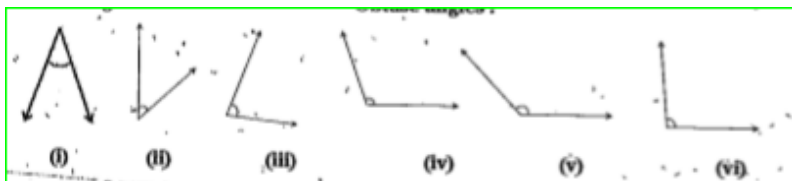
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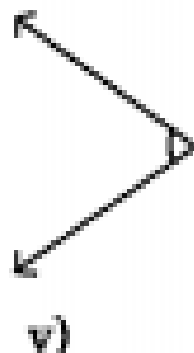
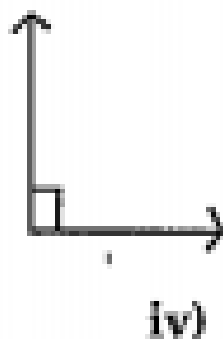
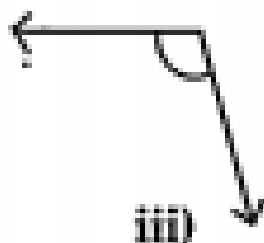
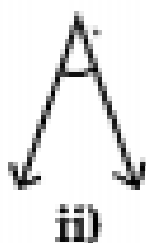
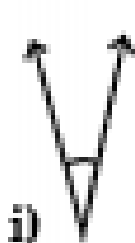
[Watch Video Solution](#)

20. Draw some angles of your choice . Test them by the " angle apparatus " and write which are acute and which are obtuse.



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21. Which are acute angles? Find and write their

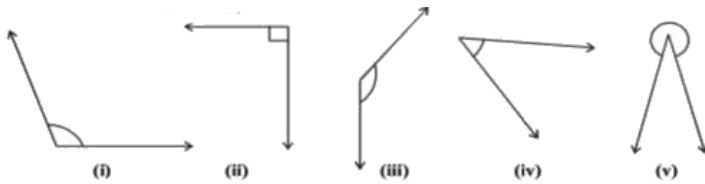


measures.



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 **Watch Video Solution**

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.



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25. Draw any two separate lines in a plane. Do they intersect at more than one point?



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26. Can you think of two distinct lines that have three common points? Two common points ?



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27. Draw two lines on a paper as shown below. Do they intersect each other? Can you call them parallel lines? Give reason.



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1. Find the angle which is equal to its complement



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2. Why is it better to use a divider than a ruler, while comparing two line segments?



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3. Measure all the line segments in the figure given below and arrange them in the ascending order of their lengths.





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4. Mid point of bar AB is located by swetha and Reshma



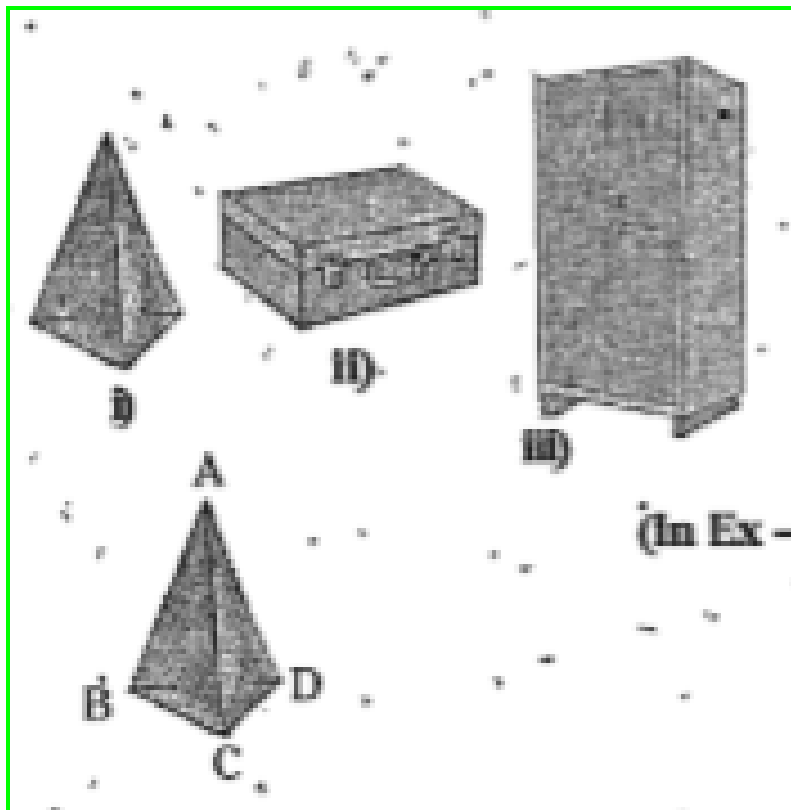
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5. Each of these figures given along side has many line segments. For the almirah we have shown on the line segment along the longer edge. Identify and mark all

such line segments in these figures.



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Exercise 5 2

1. Write “True” or “False”. Correct all those that are false: An angle smaller than right angle is acute angle.



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2. Write “True” or “False”. Correct all those that are false: A right angle measures 180° .



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3. Write “True” or “False”. Correct all those that are false: A straight angle measures 90° .



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4. Write “True” or “False”. Correct all those that are false: The measure greater than 180° is a reflex angle.



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5. Write 'True' or 'False'. Correct all those that are false.
A complete angle measures 360° .



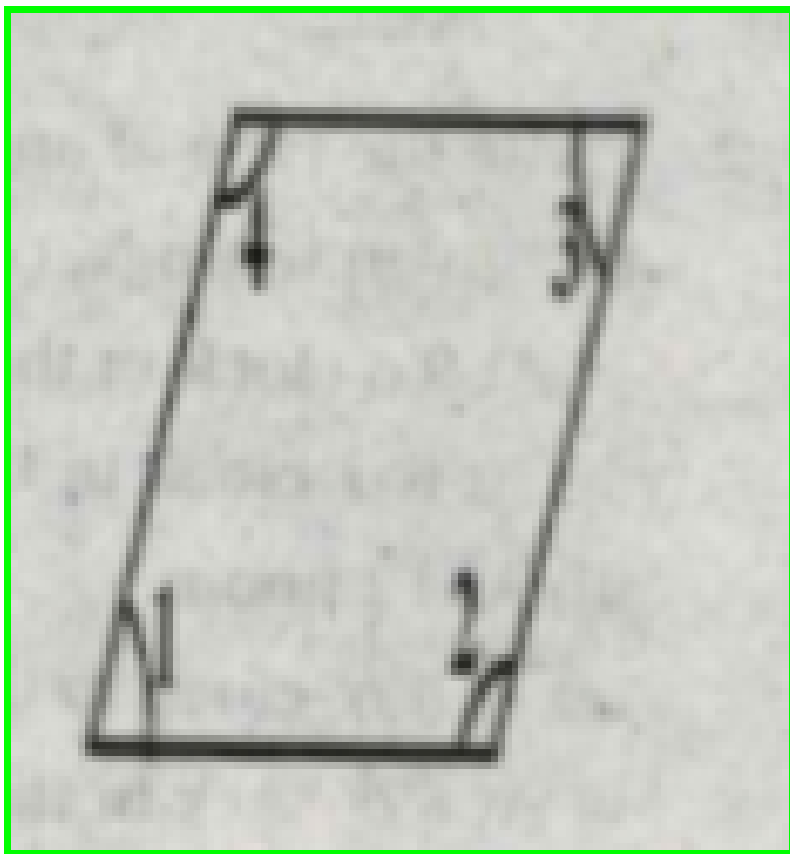
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6. Which angles in the adjacent figure are acute and which are obtuse ? Check your estimation by

measuring them. Write their

measures

too.



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7. What is the measures of these angels.Which is the largest angel?Draw an angel larger than the largest

angel.



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8. Write the type of angle formed between the long hand and short hand of a clock at the given timings. (Take the small hand as the base) i) At 9'O clock in the morning, ii) At 6'O clock in the evening, iii) At 12 noon, iv) At 4'O clock in the afternoon, v) At 8'O clock in the night.



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9. Match the angles by measure. Draw figures for these as well.

Group A

Acute angle

Right angle

Obtuse angle

Reflex angle

Straight angle

Group B

90°

270°

45°

180°

150°



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Exercise 5 3

1. Which of the following are models for parallel lines, perpendicular lines and which are neither of them. i)

The vertical window bars, ii) Railway lines (track), iii) The adjacent edges of door, iv) The letter 'V' in English Alphabet, v) The opposite edges of a Black Board.

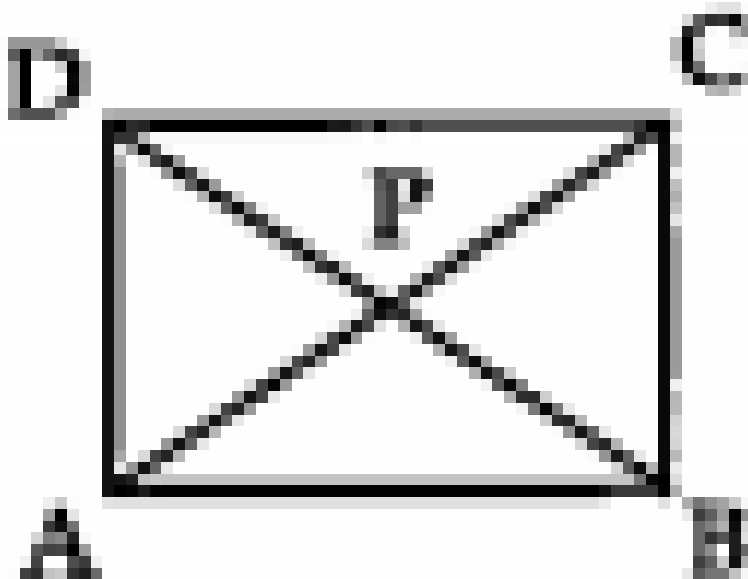
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2. Trace the copy of set squares(Geometry box) on a paper and mark the perpendicular edges.

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3. ABCD is a rectangle. \overline{AC} and 'overline (BD)' are diagonals. Write the pairs of parallel lines, perpendicular lines and intersecting lines from the

figure in symbolic form. a) Parallel lines, b) Perpendicular lines, c) Pair of intersecting lines.



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Exercise 5 1

1. Give any five examples of line segment observed in your classroom. Eg: Edge of black board.



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2. Why is it better to use a divider than a ruler, while comparing two line segments?



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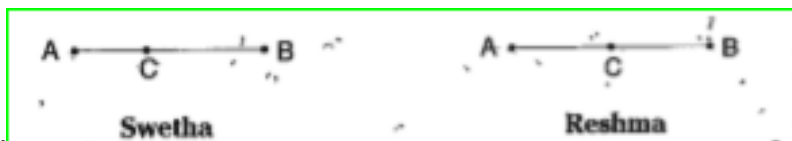
3. Measure all the line segments in the figure given below and arrange them in the ascending order of

their lengths.



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4. Mid point of bar AB is located by swetha and Reshma

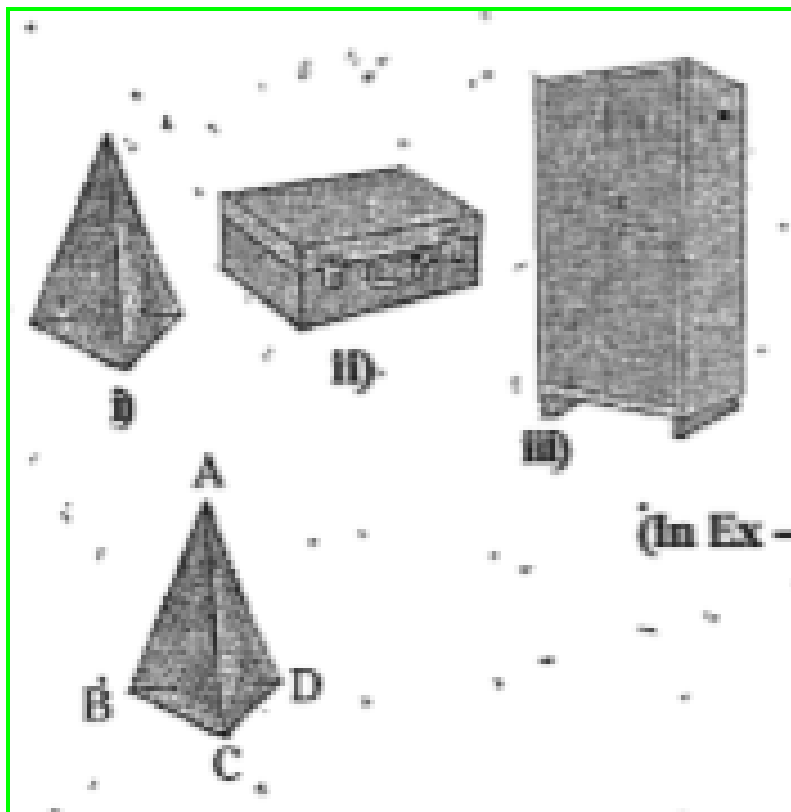


like this.

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5. Each of these figures given along side has many line segments. For the almirah we have shown on the line

segment along the longer edge. Identify and mark all such line segments in these figures.



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Exercise 5 2 True Or False

1. An angle smaller than right angle is acute angle.

State True or false



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2. A right angle measures 180°

A. true

B. false

C.

D.

Answer: FALSE A right angle measure 90°



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3. A straight angle measures 90°

A. true

B. false

C.

D.

Answer: FALSE A straight angle measure 180°



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4. True or False: The measure greater than 180° is a reflex angle.



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5. True or False: A complete angle measures 360°



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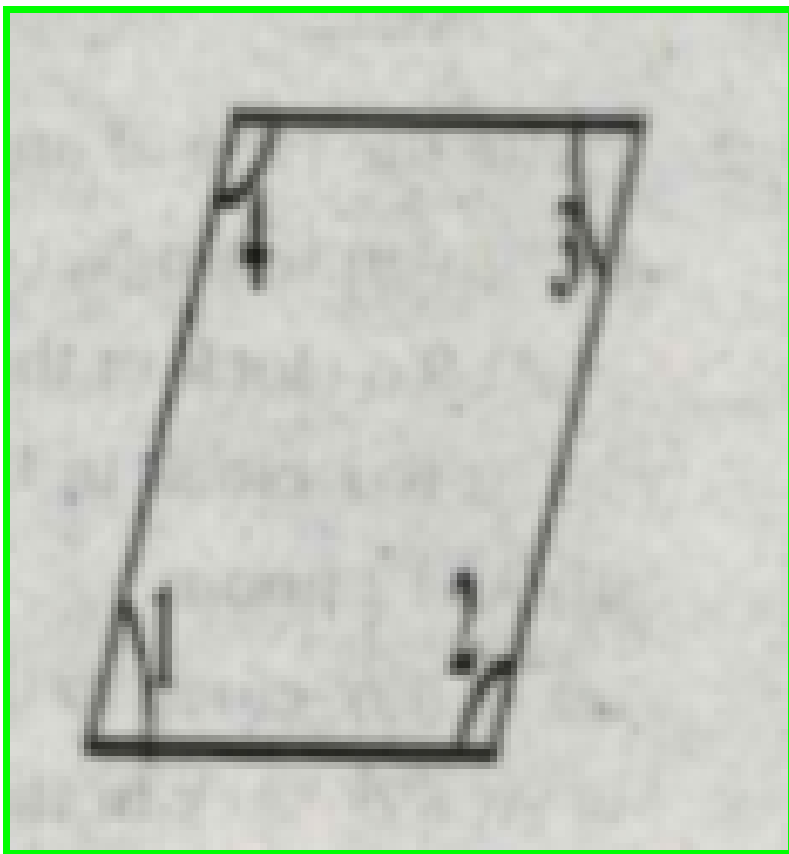
Exercise 5 2

1. Which angles in the adjacent figure are acute and which are obtuse ? Check your estimation by

measuring them. Write their

measures

too.



Watch Video Solution

2. What is the measures of these angels. Which is the largest angel? Draw an angel larger than the largest

angel.



Watch Video Solution

3. Write the type of angle formed between the long hand and short hand of a clock at given timings : At 9'o clock in the morning.



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4. Write the type of angle formed between the long hand and short hand of a clock at the given timings.

(Take the small hand as the base)

At 6 'O' clock in the evening



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5. Write the type of angle formed between the long hand and short hand of a clock at the given timings.

(Take the small hand as the base)

At 12 noon



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6. Write the type of angle formed between the long hand and short hand of a clock at the given timings.

(Take the small hand as the base)

At 4 'O' clock in the afternoon



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7. Write the type of angle formed between the long hand and short hand of a clock at the given timings.

(Take the small hand as the base)

At 8 'O' clock in the night



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8. Match the angles by measure. Draw figures for these as well.

Group A	Group B
Acute angle	90°
Right angle	270°
Obtuse angle	45°
Reflex angle	180°
Straight angle	150°



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Exercise 5 3

1. Which of the following are models for parallel lines, perpendicular lines and which are neither of them.

The vertical window bars



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2. Which of the following are models for parallel lines, perpendicular lines and which are neither of them. i) The vertical window bars, ii) Railway lines (track), iii) The adjacent edges of door, iv) The letter 'V' in English Alphabet, v) The opposite edges of a Black Board.



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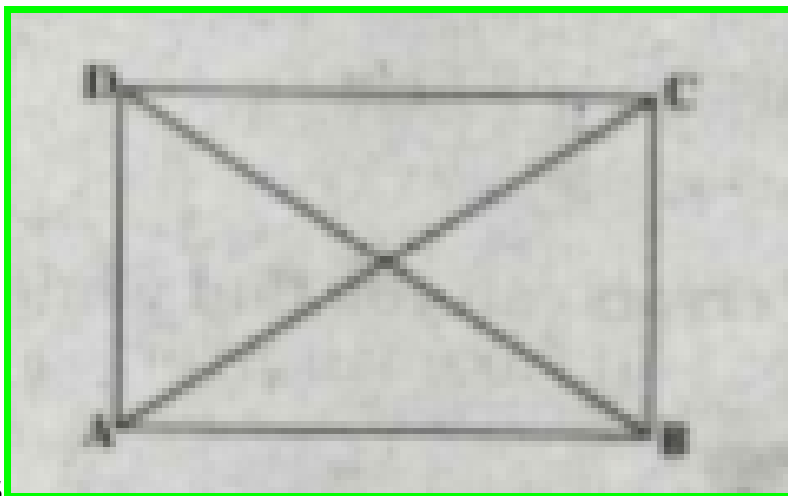
6. Trace the copy of set squares(Geometry box) on a paper and mark the perpendicular edges.



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7. ABCD is a rectangle. \overline{AC} and \overline{BD} . Write the pairs of parallel lines, perpendicular lines and intersecting

lines from the figure in symbolic form. Perpendicular



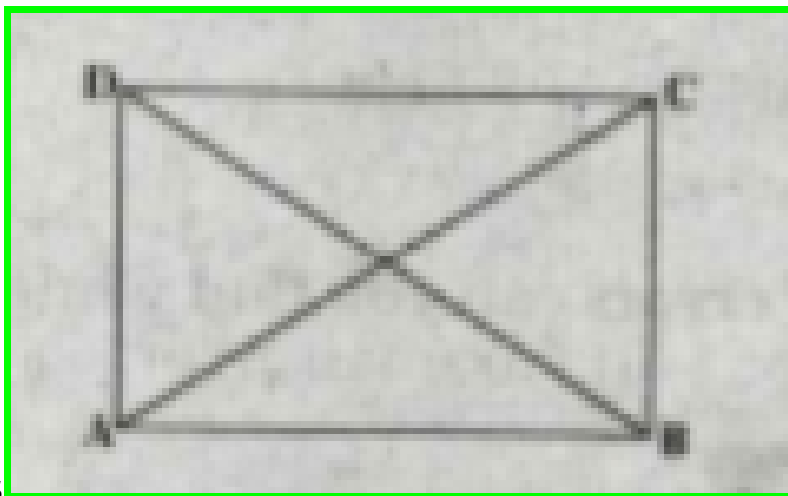
lines



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8. ABCD is a rectangle. \overline{AC} and \overline{BD} . Write the pairs of parallel lines, perpendicular lines and intersecting

lines from the figure in symbolic form. Perpendicular



lines

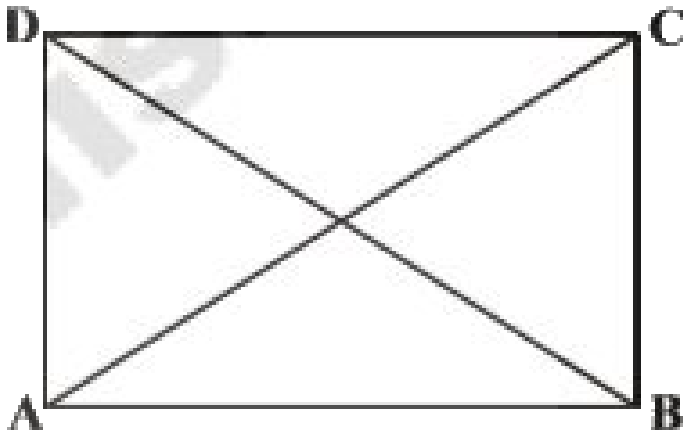


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9. ABCD is a rectangle. \overline{AC} and \overline{BD} are diagonals.

Write the pairs of parallel lines, perpendicular lines and intersecting lines from the figure in symbolic form.

Pair of intersecting lines



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