

SACRED HEART CMI PUBLIC SCHOOL, THEVARA

STD: VII

MATHEMATICS WORKSHEET - 5

TOPIC: LINES AND ANGLES

One mark questions

- Sum of linear pair of angles is  
a)  $90^\circ$  b)  $120^\circ$  c)  $145^\circ$  d)  $180^\circ$
- Sum of an angle and half of its complementary angle is  $75^\circ$ . The angle is  
a)  $40^\circ$  b)  $50^\circ$  c)  $60^\circ$  d)  $80^\circ$
- The supplement of  $1^\circ$  is  
a)  $89^\circ$  b)  $179^\circ$  c)  $169^\circ$  d)  $201^\circ$
- An acute angle  $x$  has for its supplement  
a) right angle b) an obtuse angle c) an acute angle d) a reflex angle
- Z shaped lines stand for  
a) corresponding angles b) alternate interior angles c) adjacent angles  
d) vertically opposite angles
- A line which intersects two or more given lines at distinct points is called a \_\_\_\_\_.
- Linear pairs are formed by two \_\_\_\_\_ angles.
- Supplement of an obtuse angle can only be \_\_\_\_\_.
- Two lines which are parallel to a given line  $m$  are \_\_\_\_\_ to each other.
- The angle which is double of its complement is \_\_\_\_\_.

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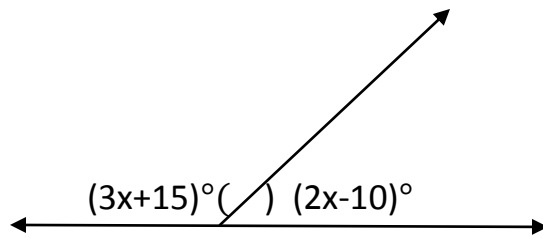
MATHEMATICS WORKSHEET - 6

TOPIC: LINES AND ANGLES

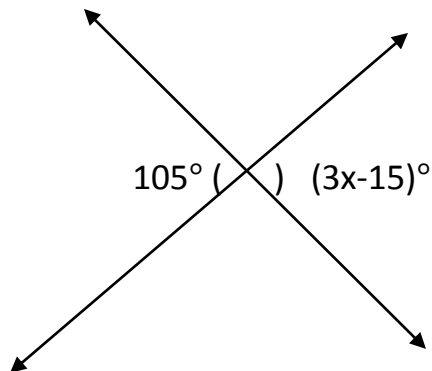
Two marks questions

1. Two supplementary angles are such that one is  $\frac{4}{5}$  of the other. Find them.
2. Find the complement of  $\frac{2}{5}$  of  $\frac{1}{3}$  of a right angle.
3. Two angles forming a linear pair are in the ratio 4: 5. Find the angles.
4. Find the value of x in each of the following

a)



b)



5. Find the magnitude of an angle which is  $\frac{1}{4}$  of its complement.

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MATHEMATICS WORKSHEET - 7

TOPIC: CONGRUENCE OF TRIANGLES

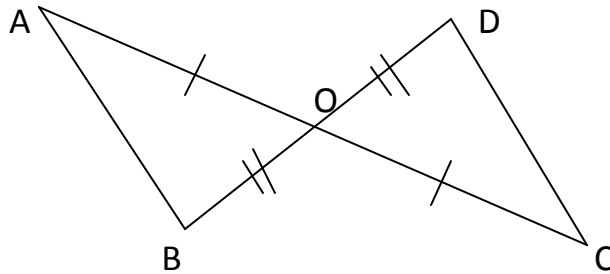
One mark questions

- Two figures are congruent if they have the same
  - shape
  - size
  - shape and size
  - none of these
- Two angles are congruent if they have
  - The same measure
  - a common arm
  - a common vertex
  - none of these
- If  $\triangle ABC \cong \triangle PQR$ , the length of side AB is equal to the length of side
  - OR
  - PR
  - QP
  - RP
- If  $\triangle BAC \cong \triangle XYZ$ , then the correct statement is
  - $\angle B = \angle X$
  - $\angle B = \angle Y$
  - $\angle B = \angle Z$
  - None of these
- In the following figure, O is the midpoint of AB and CD. By using which of the following congruence condition  $\triangle AOC \cong \triangle BOD$ ?
  - SSS
  - SAS
  - ASA
  - RHS
- $\triangle ABC \cong \triangle DEF$ ,  $\angle A = 55^\circ$ ,  $\angle B = 65^\circ$  then  $\angle F =$  \_\_\_\_\_.
- If  $\triangle ABC \cong \triangle XYZ$  and  $AC = 7$  cm, then  $XZ =$  \_\_\_\_\_.
- If two circles have \_\_\_\_\_, they are congruent.

**Two marks questions**

- If  $\triangle ABC$  and  $\triangle XYZ$  are equilateral triangles and  $AB = XY$ , state the conditions under which  $\triangle ABC$  and  $\triangle XYZ$  are congruent.

10. By applying SAS congruence condition, state which of the adjoining pairs of triangles are congruent. State the result in symbolic form.



11.  $\triangle ABC$  is isosceles with  $AB = AC$  and  $AD$  is the altitude from  $A$  on  $BC$ .

- Is  $\triangle ABD \cong \triangle ACD$  ?
- State the pairs of matching parts you have used to answer (a)
- Is it true to say that  $BD = DC$  ?

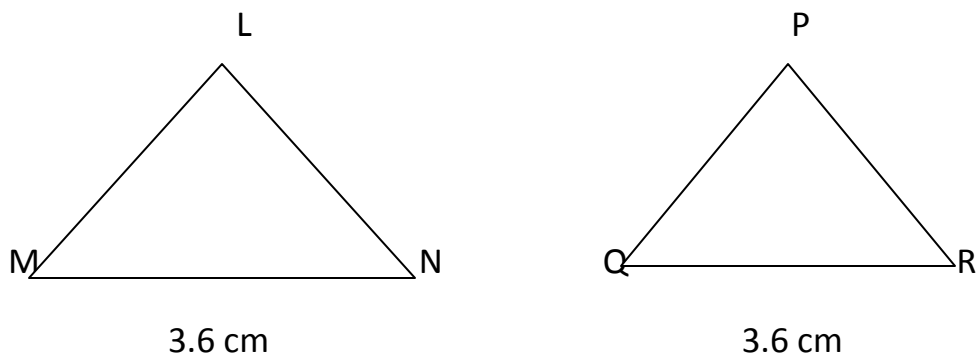
12. Without drawing the triangles, state the correspondence between the sides and angles of the following pairs of congruent triangles.

- $\triangle XYZ \cong \triangle LMN$
- $\triangle YXZ \cong \triangle LMN$

13. If  $\triangle PRS \cong \triangle HMT$ , write the parts of  $\triangle PRS$  that correspond to

- HT
- $\angle M$
- $\angle T$
- HM

14. In the given figure,  $\triangle LMN \cong \triangle PQR$ , find the values of  $x$  and  $y$ .



$$\angle M = 35^\circ \text{ and } \angle Q = x - 10$$

$$\angle N = y + 3 \text{ and } \angle R = 65^\circ$$

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**MATHEMATICS WORKSHEET - 8**

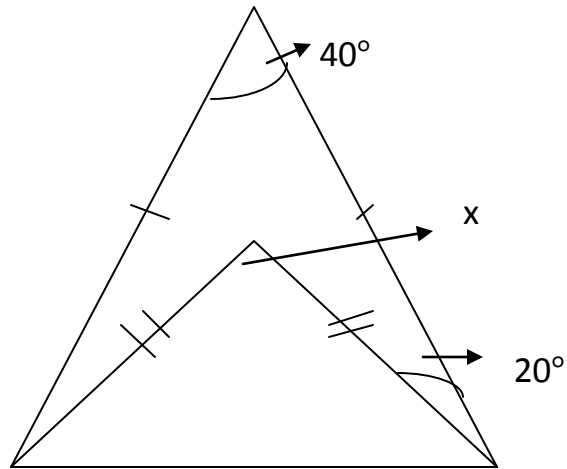
**TOPIC: TRIANGLE AND ITS PROPERTIES**

**One mark Questions**

- Two angles of a triangle are  $30^\circ$  and  $120^\circ$ . It is a/an
  - isosceles triangle
  - equilateral triangle
  - scalene triangle
  - right angled triangle
- A person goes 13m due east and 5m due north. The distance from the starting point is
  - 17m
  - 15m
  - 14 m
  - 13m
- Each acute angle of a right angled isosceles triangle is
  - $30^\circ$
  - $45^\circ$
  - $5^\circ$
  - $60^\circ$
- In  $\triangle DEF$ ,  $DE = DF$  and  $\angle E = \angle F$ , Then  $\angle E =$ 
  - $36^\circ$
  - $60^\circ$
  - $108^\circ$
  - $144^\circ$
- The perpendicular length of a right triangle whose hypotenuse is 15cm and base is 12cm is
  - 27cm
  - 18cm
  - 81cm
  - 9cm

**Two marks questions**

6. The three angles of a triangle are in the ratio 2:3:4. Find the measure of the smallest angle of the triangle.
7. The three angles of a triangle are  $(x-20)^\circ$ ,  $(x-40)^\circ$  and  $(\frac{x}{2}-10)^\circ$ . Find the value of  $x$
8. Two vertical poles 15m and 36m high stand in a playground. If their feet be 7m apart, find the distance between their tops.
9. One acute angle of a right triangle measures  $12^\circ$  less than the other acute angle. Find the measures of each angle.
10. Find the value of  $x$



### One mark Questions

Fill in the blanks

11. \_\_\_\_\_ is an important property of right triangles.
12. A line segment joining vertex and the midpoint of the opposite side of a triangle is \_\_\_\_\_.
13. The longest side of a right triangle is \_\_\_\_\_.

14. Three angles of a triangle sum up to a \_\_\_\_\_ angle.
15. In a triangle , the exterior angle and the interior adjacent angle form a \_\_\_\_\_.

**2 ½ MARKS QUESTIONS**

16. The exterior angle of a triangle is  $70^\circ$  and the interior opposite angles are in the ratio 3:4 . Find all the three angles of the triangle.
- 17, The length of the hypotenuse of a right angled triangle is 10 cm. If the lengths of the other two sides are in the ratio 3:4 , find the lengths of these sides.
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**MATHEMATICS WORKSHEET - 9**

**TOPIC: COMPARING QUANTITIES**

**One mark questions**

1. The ratio 3:8 is equal to  
a) 3.75%   b) 37.5%   c) 0.375 %   d) 267%
2. The ratio of Fatima's income to her savings is 4: 1. The percentage of money saved by her is  
a) 20%   b) 25%   c) 40%   d) 80%
3. What percent of Rs. 4500 is Rs. 9000?  
a) 200%   b) 0.5 %   c) 2%   d) 50%
4. A bicycle is purchased for Rs. 1800 and sold at a profit of 12%. Its selling price is  
a) Rs. 1584   b) Rs. 2016   c) Rs. 1788   d) Rs. 1812
5. Amount received on Rs. 3000 for 2 years at the rate of 11% per annum is  
a) Rs. 2340   b) Rs. 3660   c) Rs. 4320   d) Rs. 3330

6. If 90% of x is 315 km, then the value of x is \_\_\_\_\_.
7. A \_\_\_\_\_ with its denominator 100 is called a percent.
8. 15 kg is \_\_\_\_\_ % of 50 kg.
9. Amount obtained by depositing Rs. 20000 at 8% per annum for 6 months is \_\_\_\_\_
10. Savithri obtained 440 marks out of 500 marks in an examination. She scored \_\_\_\_\_% marks in the examination.

**Two marks questions**

11. The population of a village is 80000. Out of these 80% are literate and of these literate people 40% are women. Find the ratio of the number of the literate women to the total population.
12. In how many years will Rs. 20000 amount to Rs. 23000 at 5% p.a simple Interest?
13. Find  $33\frac{1}{3}$  % of 27 litres.
14. Ramit scored 64 marks in Maths in the first term. In the next term he scored 80 marks. Find the percentage increase in his marks.
15. A printer was sold at Rs. 8550 at loss of 5%. Find the cost price of the printer.

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