



ST. LAWRENCE HIGH SCHOOL



A Jesuit Christian minority Institution

Subject: Mathematics Class- X

Date: 16/11/2020

Answer key of Worksheet-4

Chapter- Similarity

Topic- application of theorems of similarity and Pythagoras theorem

1. Choose the correct alternative. $1 \times 15 = 15$
- i) In triangle ABC, AD is perpendicular on BC. If $\angle ACB = \angle BAD$, AC= 8 cm, AB=16 cm AD= 3 cm. Then write the length of BD i) 8 cm **ii) 6 cm** iii) 9 cm iv) none of these
- ii) In the triangle ABC, $\angle B = 90^\circ$ and BD is perpendicular on AC. If AB=5.7 cm, BD=3.8 cm and CD=5.4 cm. Find AD i) 1.674 cm ii) 1.674 cm **iii) 2.674 cm** iv) none of these
- iii) In triangle ABC, AB= 9 cm, BC= 6 cm and CA= 7.5 cm. In triangle DEF the corresponding side of BC is EF, EF= 8 cm and if triangle DEF is similar to triangle ABC, then perimeter of triangle DEF will be **i) 30 cm** ii) 22.5 cm iii) 27 cm iv) none of these
- iv) In any right angled triangle the area of the square drawn on the hypotenuse is equal to the _____ of the areas of the squares drawn on other 2 sides.
i) Product ii) difference **iii) sum** iv) none of these
- v) If in a triangle area of a square drawn on one side is equal to the sum of the areas of squares drawn on other 2 sides, then the angle opposite to the first side is **i) right angle** ii) 60° iii) 45° iv) none of these
- vi) Which are the cases where the triangle is a right triangle?
i) 9cm, 11 cm, 6 cm ii) 8cm, 15 cm, 17 cm iii) 6cm, 8cm, 10 cm **iv) both (2) and (3)**
- vii) In a garden a ladder of 25 m length is inclined to a guardwall at the height of 24 m above the ground. Calculate distance of the foot of the ladder from the

- guardwall? i) 6 cm ii) 7 cm **iii) 7 m** iv) 9m
- viii) If the length of a rhombus are 12 cm and 16 cm respectively, then write the length of one side of the rhombus.
i) **10 cm** ii) 6 cm iii) 8 cm iv) none of these
- ix) A person goes 24 m west from a place and then he goes 10m north. The distance of the person from starting point is i) 34 m ii) 17 m iii) 25 m
iv) 26 m
- x) If lengths of 2 diagonals of a rhombus are 24 cm and 10 cm respectively.
i) **52 cm** ii) 26 cm iii) 25 cm iv) none of these
- xi) If ABC is an equilateral triangle and AD is perpendicular on BC. Then $AD^2 =$
i) $\frac{3}{2} DC^2$ ii) $2DC^2$ **iii) $3DC^2$** iv) $4DC^2$
- xii) Two rods of the length 13 m and 7 m are placed perpendicularly on the ground and distance between their feet is 8 m. The distance between the two vertices is i) 9 m **ii) 10m** iii) 11m iv) 12 m
- xiii) In an isosceles right triangle if 2 equal sides are $4\sqrt{2}$ cm. Then length of hypotenuse is _____.
i) 10 cm ii) 9 cm **iii) 8 cm** iv) none of these
- xiv) In ABC triangle If $AB = (2a-1)$ cm. $AC = 2\sqrt{2a}$ cm and $BC = (2a+1)$ cm. Then find the value of angle BAC.
i) 60° **ii) 90°** iii) 45° iv) none of these
- xv) If the ratio of the lengths of 3 sides of a triangle is 3:4:5 then the triangle is
i) Equilateral triangle **ii) right angled triangle** iii) isosceles triangle
iv) none of these

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