



ST. LAWRENCE HIGH SCHOOL



A Jesuit Christian minority Institution

Subject: Mathematics

Class- X

Date:14/11/2020

Worksheet-3

Chapter- Similarity

Topic- application of theorems of similarity

1. Choose the correct alternative. 1x15=15
- i) If in 2 triangles ABC and DEF we have $AB/DE = BC/EF = AC/DF$ then ratio of perimeter of triangle ABC and DEF is i) $\frac{1}{2}$ ii) AB/DE iii) BC/AC iv) none of these
- ii) If in 2 triangles ABC and DEF we have $AB/DE = BC/EF = AC/DF$ then ratio of area of triangle ABC and DEF is i) $(AB/DE)^2$ ii) $(BC/EF)^2$ iii) $(AC/DF)^2$ iv) all of the above
- iii) In ABC right triangle angle A is right angle, a perpendicular is drawn from A on BC at D point then i) triangle ABD is similar to triangle ACD ii) triangle ABD is similar to triangle ABC iii) triangle ACD is similar to triangle ABC iv) all of the above
- iv) In triangle ABC and DEF if $AB/DE = BC/DF = AC/EF$ then i) $\angle A = \angle D$ ii) $\angle B = \angle D$ iii) $\angle A = \angle F$ iv) none of these
- v) If in triangle MNO and PQR $MN/PR = NO/RQ = MO/PQ$ then i) $\angle P = \angle M$ ii) $\angle M = \angle Q$ iii) $\angle R = \angle O$ iv) none of these
- vi) In triangle DEF and PQR if $\angle D = \angle Q$ and $\angle R = \angle E$ then which one is not right?
i) $EF/PR = DF/PQ$ ii) $QR/PQ = EF/DF$ iii) $DE/QR = DF/PQ$ iv) $EF/PR = DE/QR$
- vii) In ABC and DEF triangle $\angle A = \angle E = 40^\circ$ and $AB/DE = AC/EF$ and $\angle F = 65^\circ$ then value of $\angle B$ is i) 65° ii) 35° iii) 75° iv) none of these
- viii) In triangle PQR and XYZ $PQ/XY = PR/XZ$, $\angle P = \angle X = 30^\circ$ and $\angle Y = 100^\circ$. Then $\angle Q$ is i) 80° ii) 100° iii) 30° iv) none of these

- ix) viii) In triangle PQR and XYZ $PQ/XY = PR/XZ$, $\angle P = \angle X = 30^\circ$ and $\angle Y = 100^\circ$. Then $\angle R$ is i) 50° ii) 100° iii) 30° iv) none of these
- x) In triangles ABC and PQR $AB = a$ cm, $BC = b$ cm, $AC = c$ cm and In PQR triangle $PQ = p$ cm, $QR = q$ cm and $PR = r$ cm. If $a/p = b/q$ and $\angle B = \angle Q$ then $(a+b+c)/(p+q+r) =$ _____ i) a/p ii) c/r iii) p/q iv) both (1) and (2)
- xi) If ratio of corresponding sides of 2 triangles PQR and XYZ is $3/7$, then ratio of area of PQR and XYZ is i) $7/3$ ii) $3/7$ iii) $9/49$ iv) $49/3$
- xii) In triangle ABC, $\angle B = 90^\circ$, from B a perpendicular is drawn an AC at point D. $BD = 8$ cm, $AD = 5$ cm. Find CD i) 12.8 cm ii) 15 cm iii) 12 cm iv) none of these
- xiii) In ABC triangle, $\angle B = 90^\circ$ and BD is perpendicular on AC. If $AD = 4$ cm and $CD = 16$ cm. Find BD i) 10 cm ii) 6 cm iii) 5 cm iv) 8 cm
- xiv) In ABC triangle, $\angle B = 90^\circ$ and BD is perpendicular on AC. If $AD = 4$ cm and $CD = 16$ cm. then i) $2AB = BC$ ii) $2BC = AB$ iii) $AD = 2CD$ iv) none of these
- xv) In ABC triangle, $\angle B = 90^\circ$ and BD is perpendicular on AC. If $AD = 4$ cm and $CD = 16$ cm. Find AB. i) $2\sqrt{5}$ cm ii) $4\sqrt{5}$ cm iii) $6\sqrt{5}$ cm iv) none of these

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