ST. LAWRENCE HIGH SCHOOL

TOPIC –Theorems on Area

Subject : Mathematics **Class-9** **F. M. 15**

WORKSHEET NO.- 4 **Second term** **Date: 03.07.21**

Q.1) Choose the correct option: (1x15=15)

i) D, E and F are midpoint of sides BC, CA and AB respectively of aΔABC. If Δ ABC = 16 sq. cm, then the area of the shape of trapezium FBCE is

a) 40sq.cm b) 8sq.cm c)12sq.cm d)100sq.cm

ii) A, B, C, D are the midpoints of sides PQ, QR, RS and SP respectively of a parallelogram PQRS. If area of the shape of parallelogram PQRS = 36 sq. cm, then area of ABCD field is

a) 24 sq. cm b)18 sq. cm c)30 sq. cm d)36 sq. cm

iii) O is any point inside parallelogram ABCD. If Δ AOB + Δ COD = 16 sq. cm, then area of the shape of the parallelogram ABCD is

a)8 sq. cm b)4 sq. cm c)32 sq.cm d)64 sq.cm

iv)D is the midpoint of side BC of Δ ABC. E is the midpoint of side BD and O is the midpoint of AE , area of triangular field BOE is

a)$\frac{1}{3}$x Area of Δ ABCb) $\frac{1}{4}$ x Area of Δ ABCc)$\frac{1}{6}$ x Area of Δ ABC d) $\frac{1}{8}$ x Area of Δ ABC

v)A parallelogram, a rectangle and a triangle stand on same base and between same parallel and if their area are P, Q and T respectively,

a)P = R = 2T b)P = R = $\frac{T}{2}$ c)2P = 2R = T d)P = R = T

vi) ABDE is a parallelogram and F is the midpoint of DE. If area of Δ ABD is 28 sq. cm then area of Δ AEFis

a)12 sq.cm b)21 sq.cm c) 14 sq.cm d) 7 sq.cm

vii)ABCD is a parallelogram. E and F are respectively the midpoints of AB and DC. Join the diagonal BD. Ratio of areas of the quadrilateral BCFE and Δ BCD is

a)2 : 1 b) 3 : 2 c)1 : 1 d)4 : 1

viii)In Δ ABC, P is the midpoint of the median AD. If the area of Δ ABC is 24 sq. cm, then the area of Δ BPD is

a)4 sq. cm b)12 sq. cm c) 8 sq. cm d)6 sq. cm

ix) In Δ ABC, D is the midpoint of side BC. From the point D, DE is perpendicular on AB. If AE = 2 EB and area of Δ ABC is 36 sq. cm then area of Δ ADE is

a)9sq.cm b) 18 sq.cm c) 12 sq.cm d) 15 sq.cm

x)G is the centroid of Δ ABC and D is the midpoint of the side BC. If the area of Δ GBD is 8 sq. cm, then the area of Δ ABC will be

a)24 sq. cm b)32 sq. cm c)48 sq. cm d)64 sq. cm

xi)In the right angled Δ ABC, $\angle B = 90^o$, and if the base BC = 15 mtrs, hypotenuse AC = 17 mtrs, then area of the triangle is

a) 60 sq.m b)40 sq.m c)120 sq.m d)30sq.m

xii) AD is a median of Δ ABC. If the area of Δ ABD is “a “sq.cmand the area of Δ ABC is “ b “ sq. cm then

a)a = 2b b) a = b c)b = 2a d) b = 3a

xiii) If the area of a square is equal to area of such a triangle whose area is 81 sq. cm, then the length of each side of the square is

a) 6cm b) 9 cm c)3 cm d)12 cm

xiv) The point of intersection of the medians of aΔ ABC is G. If the area of the triangle is 60 sq. cm, then the area ofΔ GBC will be

a)10 sq. cm b) 30 sq. cm c) 20 sq. cm d)40 sq. cm

xv)The perimeter of a parallelogram is 21 cm. The height of the parallelogram with respect to the base PS is 4cm, and the height with respect to SR is 3 cm. Then the area of the parallelogram is

a) 12 sq. cm b)18 sq. cm c)24 sq. cm 30 sq. cm

-ChaitaliRoy