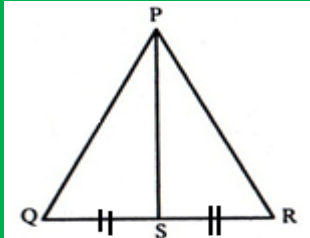


**Work Sheet – 01 (Mathematics)**  
**for class – Nine (01.10.2020)**  
**Chapter - Sixteen, Exercise - 16.1**  
**Mensuration**

**Creative Multiplication Choice Questions**

1.



$\Delta PQR$  is an equilateral triangle.

[D.B.- 20]

- i.  $QS = SR$
- ii.  $\angle PQR = 30^\circ$
- iii.  $PS \perp QR$

Which one of the following is correct?

- a) i and ii
- b) i and iii
- c) ii and iii
- d) i, ii and iii

2. An Isosceles triangle perimeter 16 cm and base 6 cm then what is the height of it?

[My.B.- 20]

- a) 12 cm
- b) 8 cm
- c) 6 cm
- d) 4 cm

3. If length of a side of an equilateral triangle is 4 cm then what is the height of the triangle?

[R.B.- 20]

- a) 20
- b) 12
- c)  $4\sqrt{3}$
- d)  $2\sqrt{3}$

4. If the area of an equilateral triangle is  $4\sqrt{3}$  square metre then what is the length of the side of the triangle?

[Dj.B.- 20, J.B.- 17]

- a)  $\frac{\sqrt{3}}{4}$  metre
- b)  $\sqrt{3}$  metre
- c) 4 metre
- d) 16 metre

5. Which one of the following is the area of an isosceles triangle if its base is a and the length of its equal sides is b? [Dj.B.- 20]

- a)  $\frac{b}{4}\sqrt{4a^2 - b^2}$
- b)  $\frac{a}{4}\sqrt{4b^2 - a^2}$
- c)  $\frac{4}{a}\sqrt{4b^2 - a^2}$
- d)  $\frac{4}{b}\sqrt{4b^2 - a^2}$

6. The area of an equilateral triangle is  $25\sqrt{3}$  square metre. What is the length of one side of the triangle? [C.B.- 20]

- a) 5 metre
- b) 10 metre
- c) 50 metre
- d) 100 metre

7. If one side of an equilateral triangle is  $\sqrt{3}$  cm then what is the area of it? [R.B.- 19]

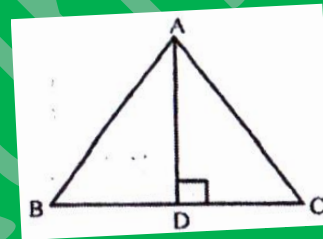
- a)  $\frac{3}{4}$  cm<sup>2</sup>
- b)  $\frac{3\sqrt{3}}{4}$  cm<sup>2</sup>
- c)  $\frac{9}{4}$  cm<sup>2</sup>
- d)  $\frac{9\sqrt{3}}{4}$  cm<sup>2</sup>

8. The hypotenuse of an isosceles right a triangle is 12 cm. What is its area?

[R.B.- 19]

- a)  $\sqrt{72}$  sq. cm
- b)  $\sqrt{144}$  sq. cm
- c) 36 sq. cm
- d) 144 sq. cm

9.



In the above figure if  $AB = BC = CA = 4$ cm then  $AD =$  What?

[R.B.- 19]

- a)  $2\sqrt{3}$  cm
- b)  $2\sqrt{5}$  cm
- c)  $3\sqrt{2}$  cm
- d)  $5\sqrt{2}$  cm

10. The lengths of the two sides of a triangle are 6 cm, 7 cm and the angle included between them is  $60^\circ$ . What is the area of the triangle?

[Dj.B.- 19]

- a) 10.50 cm<sup>2</sup>
- b) 14.85 cm<sup>2</sup>
- c) 18.19 cm<sup>2</sup>
- d) 36.37 cm<sup>2</sup>

11. If the length of equal sides of an isosceles right-angled triangle is 12 cm then which one of the following is its area? [C.B.- 19]

- a) 24 sq. cm
- b) 36 sq. cm
- c) 72 sq. cm
- d) 144 sq. cm

12. If the area of an equilateral triangle is  $6\sqrt{3}$  square meter then what is the perimeter of it? [Ctg.B.- 19]

- a) 4.89 metre
- b) 14.69 metre
- c) 19.59 metre
- d) 72.00 metre

13. The length of the two sides of a triangle are 9 cm and 10 cm respectively and angle included

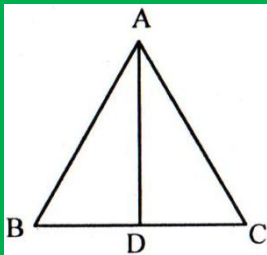
between them is  $60^\circ$ . What is the area in square cm? [All B.- 18]

- a) 22.5                      b) 38.97  
c) 45                         d) 77.94

14. If the length of the side of an equilateral triangle is 2 metre then what is the area of it? [D.B.- 17]

- a)  $\sqrt{3}$  sq. metres            b)  $2\sqrt{3}$  sq. metres  
c)  $4\sqrt{3}$  sq. metres         d)  $8\sqrt{3}$  sq. metres

Answer to the questions no. (15 – 16) according to the information from the picture below:



AB = BC = AC = 6 cm and D is the middle point of BC.

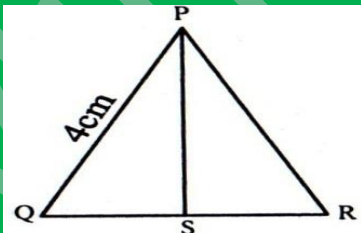
15. BD = What? [Ctg.B.- 17]

- a) 2                            b) 3  
c) 4                            d) 6

16. What is the height of the triangle in cm? [Ctg.B.- 17]

- a)  $\sqrt{3}$                          b)  $\frac{3\sqrt{3}}{2}$   
c)  $3\sqrt{3}$                      d)  $2\sqrt{13}$

Answer to the questions no. (17 – 18) with the help of figure given below:



PQR is an equilateral triangle whose  $PS \perp QR$  and  $PQ = 4$  cm.

17. What is the length of QS in centimeter? [B.B.- 17]

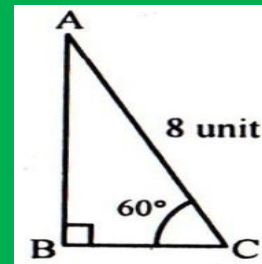
- a) 2                            b) 4  
c) 3                            d) 1

18. What is the height of the triangle in cm? [B.B.- 17]

- a)  $5\sqrt{2}$                      b) 20

- c)  $2\sqrt{3}$                      d) 3

Answer to the questions no. (19 – 20) with the help of figure given below:



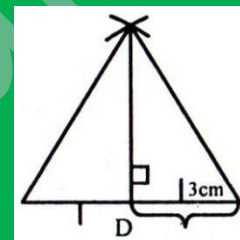
19. What is the length of BC? [R.B.- 16]

- a)  $\frac{4}{\sqrt{3}}$  unit                    b) 4 unit  
c)  $4\sqrt{2}$  unit                 d)  $4\sqrt{3}$  unit

20. What is the area of  $\triangle ABC$  in square unit? [R.B.- 16]

- a)  $8\sqrt{3}$                         b)  $4\sqrt{3}$   
c) 4                             d)  $\frac{4}{\sqrt{3}}$

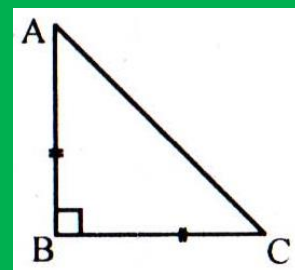
21.



What is the height of the equilateral triangle? [Ctg.B.- 16]

- a)  $\sqrt{3}$                          b)  $3\sqrt{3}$   
c)  $\sqrt{45}$                      d) 27

22.



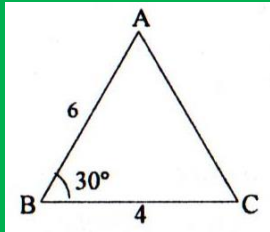
In figure — [C.B.- 16]

- i.  $\angle ABC < \angle ACB$   
ii.  $\angle ACB = \angle BAC$   
iii.  $\angle ACB + \angle BAC = \angle ABC$

Which one of the following is correct?

- a) i and ii                     b) i and iii  
c) ii and iii                  d) i, ii and iii

23.



What is the area of  $\Delta ABC$ ? [R.B.- 15]

- a)  $6\sqrt{3}$                       b) 6  
c) 12                                d) 24

24. The edge of an equilateral triangle is 8 cm then what is the height of it?

[Ctg.B.- 15]

- a)  $2\sqrt{3}$                             b)  $4\sqrt{3}$   
c)  $16\sqrt{3}$                         d)  $32\sqrt{3}$

25. In an isosceles triangle if the length of the base is  $x$  and length of each of the equal side is  $y$  then what is the area of the triangle? [J.B.- 15]

- a)  $\frac{x}{4}\sqrt{4y^2 - x^2}$                 b)  $\frac{4}{x}\sqrt{4y^2 - x^2}$   
c)  $\frac{x}{4}\sqrt{4x^2 - y^2}$                 d)  $\frac{x}{4}\sqrt{x^2 - 4y^2}$

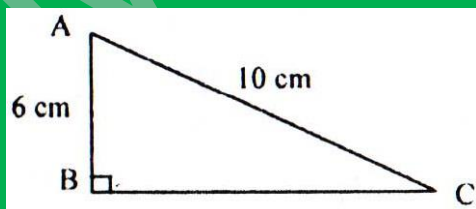
26. The length of three sides of a triangle are 5 cm, 6 cm and 7 cm respectively. Find the area of it. [S.B.- 15]

- a) 15.7 square cm  
b) 15 square cm (Approx)  
c) 14.7 square cm (Approx)  
d) 13.7 square cm (Approx)

27. If in  $\Delta ABC$ ,  $AB = AC = 25$  cm and  $BC = 30$  cm then what is the area of  $\Delta ABC$ ? [D.B.- 15]

- a)  $250 \text{ cm}^2$                         b)  $300 \text{ cm}^2$   
c)  $340.9 \text{ cm}^2$                     d)  $409.1 \text{ cm}^2$

28.



In figure of ABC — [Dj.B.- 15]

- i. Area 24 square cm.  
ii. Perimeter 60 cm.  
iii.  $\angle BAC > \angle ACB$

Which one of the following is correct?

- a) i and ii                            b) i and iii

- c) ii and iii                        d) i, ii and iii

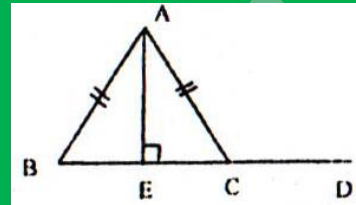
29. In the given (above) figure - [J.B.- 15]

- i.  $\angle BAC + \angle ABC = \angle ACD$   
ii.  $\angle ABC = \angle ACB = 60^\circ$   
iii.  $\angle ACD + \angle ACB = 180^\circ$

Which one of the following is correct?

- a) i and ii                            b) i and iii  
c) ii and iii                        d) i, ii and iii

Observe the following figure and answer to the questions No. (30 – 31):

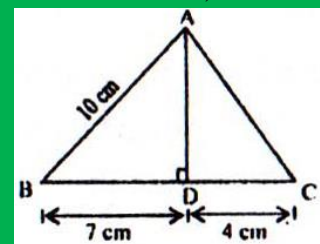


30. What will be the area of a square whose perimeter is equal to the perimeter of  $\Delta ABC$ ? [J.B.- 15]

- a) 4 sq. cm                            b) 3 sq. cm  
c) 2.50 sq. cm                        d) 2.25 sq. cm

31. What is the length of AE? [J.B.- 15]

- a)  $\sqrt{2}$  cm                            b)  $\sqrt{3}$  cm  
c)  $\sqrt{5}$                                 d)  $2\sqrt{3}$  cm



According to above diagram answer to the questions No. (32 – 33):

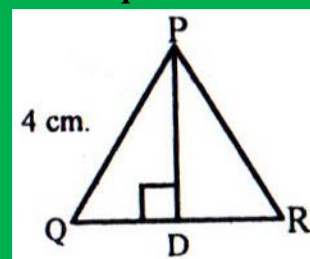
32. What is the length of AD? [B.B.- 15]

- a) 7 cm                                b) 7.14 cm  
c) 9 cm                                d) 33 cm

33. What is the area of  $\Delta ABC$ ? [B.B.- 15]

- a) 20 sq. cm                        b) 24.99 sq. cm  
c) 39.27 sq. cm                    d) 78 sq. cm

Answer to the questions No. (34 – 35):



PQR is equilateral angle.

34. QD = What? [C.B.- 15]

- a) 1                                      b)  $\sqrt{2}$   
 c) 2                                        d) 4

35. What is the height of this angle?

[C.B.- 15]

- a)  $2\sqrt{3}$                                       b)  $\frac{4}{\sqrt{3}}$   
 c)  $\sqrt{3}$                                         d)  $\frac{2}{\sqrt{3}}$

36. If the perimeter of an equilateral triangle is 6 cm. What is its area?

- a)  $\frac{\sqrt{3}}{2}$                                         b)  $\frac{4}{\sqrt{3}}$   
 c)  $\sqrt{3}$                                         d)  $\frac{2}{\sqrt{3}}$

37. If base is b and length of equal sides of an isosceles triangle is a then area = What?

- a)  $\frac{a}{4}\sqrt{4b^2 - a^2}$                                       b)  $\frac{4}{a}\sqrt{4a^2 - b^2}$   
 c)  $\frac{b}{4}\sqrt{4a^2 - b^2}$                                       d)  $\frac{4}{b}\sqrt{4b^2 - a^2}$

38. If each side of an equilateral triangle is 2 metre then what is its height in metre?

- a)  $\sqrt{3}$                                         b)  $\frac{\sqrt{3}}{2}$   
 c)  $\frac{4}{\sqrt{3}}$                                         d)  $\frac{\sqrt{3}}{4}$

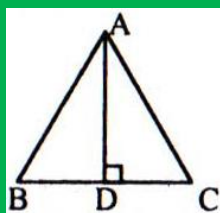
39. The area of an equilateral triangle is  $16\sqrt{3} \text{ m}^2$  then what is the length of the sides of the triangle?

- a) 16 m                                        b) 8 m  
 c) 6 m                                        d) 4 m

40. If one side of an equilateral triangle is 6 cm then which one of the following is the area in square metre?

- a)  $3\sqrt{3}$                                         b)  $6\sqrt{3}$   
 c)  $9\sqrt{3}$                                         d)  $12\sqrt{3}$

Answer questions no. (36 – 37) on the basis of the information in the figure below:



$\Delta ABC$  is equilateral triangle,  $AD \perp BC$  and  $AB = 6$  unit.

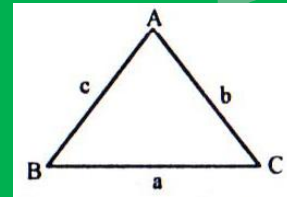
41. What is the height of the triangle in unit?

- a)  $\frac{4}{\sqrt{3}}$                                         b)  $2\sqrt{3}$   
 c)  $3\sqrt{3}$                                         d)  $3\sqrt{2}$

42. What is the area of the triangle ABD in square unit?

- a)  $\frac{9\sqrt{3}}{2}$                                         b)  $\frac{\sqrt{3}}{4}$   
 c)  $\sqrt{3}$                                         d)  $2\sqrt{3}$

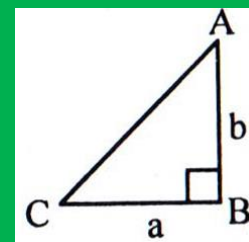
43.



In the above figure what is the area of the triangle?

- a)  $\Delta = \sqrt{s(s-a)(s-b)(s-c)}$   
 b)  $\Delta = \frac{1}{2}\sqrt{s(s-a)(s-b)(s-c)}$   
 c)  $\Delta = 2\sqrt{s(s-a)(s-b)(s-c)}$   
 d)  $\Delta = 3\sqrt{s(s-a)(s-b)(s-c)}$

44.



In the figure what is area of the triangle ABC?

- a)  $2ab$                                         b)  $\frac{1}{2}ab$   
 c)  $ab$                                         d)  $\frac{1}{2}a^2b^2$

45. The base and the area of a triangle is 3 cm and 24 square cm respectively. What is the height?

- a) 4 cm                                        b) 8 cm  
 c) 16 cm                                        d) 24 cm

46. In equilateral triangle  $\Delta ABC$ ,  $AB = 4$  and  $AD \perp BC$  then  $AD =$  What?

- a)  $64\sqrt{3}$                                         b)  $16\sqrt{3}$   
 c)  $4\sqrt{3}$                                         d)  $2\sqrt{3}$