JAFFNA HINDU COLLEGE

Risk Holiday Self - Education Worksheet - 2020

Grade - 11 | Mathematics

Name/Index No : …… Mr.R.S.Mayooran, NDT (Maths)

Answers to all questions.

Unit 1,2,3

1. Find the values

   a. 3^3

   b. $27^{\frac{2}{3}}$

   c. $.5^{-2}$

   d. $(\frac{1}{2})^{-3}$

2. $2^4 = 16$, Convert to log form.

3. $log_5 125 = 3$ =, Convert to power form.

4. If antilog 0.6998 = 5.004, find the value antilog 2.6998.

5. Convert $\sqrt{68}$ as a simplesurd.

6. Give $4\sqrt{2}$ as an entire surd.

7. Simplify. $4\sqrt{63} - 5\sqrt{7}$

8.. Simplify. $-\frac{\sqrt{20}}{2} - \sqrt{5}$

9. Simplify. $\frac{\sqrt[3]{343}x^{\frac{3}{2}}}{\sqrt{x}}$

10. Simplify. $\sqrt{1\frac{9}{16}}$

11. Find the values.
    a. log40 – 2lg2
    b. $log_2 \frac{1}{8}$

12. If lg2=x, find lg5

13. antilog 0.4771=3, convert to powerforms.

14. If lg 27=1.431, find lg9

15. If lg 4.385=0.6420, find lg 438.5.

16. If antilog 0.6420=4.385, find antilog 2.6420.

17. If lg2=0.3990, lg3=0.4771, find lg6

18. If lg 0.875=$\bar{1}.9420$ find $\frac{1}{2}$lg o.875.

19. If lg a=0.8662, lg b=$\bar{1}.9710$ find ab

20. If lg a=0.8662, lgb=$\bar{1}.9710$, find log $\frac{a}{b}$

Unit 4,5

01) Find the perimeter of a square, If thw area is 1cm^2.

02) If the volume of a cube is 1cm^3, find its surface area.

03) The lengths of diagonals of a rhombus are 12cm and 16cm. Find its perimeter

04) The lengths of diagonals of a rhombus are 14cm and 18cm. Find its perimeter.

05) The length and breadth of a rectangle are 20cm and 5cm. Find the perimeter of a square which is equal area of given rectangle.

06) A sector of central angle 60^0 has removed from a circle of area 66cm^2. Find the area of remaining part.

07) Find the radius of semicircle of perimeter 87cm.

08) The radius and central angle of a sector are 35cm and 72^0. Find the perimeter.

09) Find the radius of a quorter circle, If the perimeter is 25cm.

10) The volume and hight of a prism are 150cm^2 and 6cm. find the area of cross section.

11) The cross section of a prism is right angled triangle with shortest side 6cm the area of cross section is 24cm^2 and length of prism is 20cm.

12) Find the length of the sides of cross section.

13) Find the surface area of prism.

14) A cyclinder of height 10cm obtained from a rectangle sheet of length 22cm and breadth 10cm, find the radius of cylinder.

15) Find the curred surfacearea of above cylinder.

16) Find the plane surface area.

17) Find the volume.

18) The dinmeter and hight of a cone are 14cm and 24cm.

19) Find the slant height.

20) Find the curved surface area.

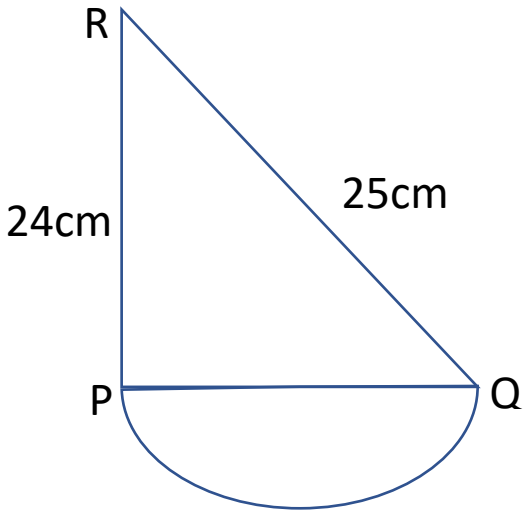
21) Find the area of base.

22) Find the volume.

According to given figure.

23) Find the length of PQ.

24) What is the perimeter of semicircle.



25) Find the perimeter of triangle.

26) Find the perimeter of given figure.

27) Calculate the area of given figure.

Unit 06 - Algebraic expressions.

$(a+b)^3 = a^3 + 3a^2b + 3ab^2 + b^2$

$(a-b)^2 = a^3 - 3a^2b + 3ab^2 - b^3$

01) Expand the following

I. $(x+5)^3$ II. $(x-2)^3$

III. $(y+8)^3$ IV. $(a-7)^3$

V. $(a+10)^3$ VI. $(x-1)^3$

VII. $(4+c)^3$ VIII. $(1-xy)^3$

IX. $(3X+2)^3$ X. $(4-3a)^3$

02)Find the values using the expansion of cube of a binomial.

I. 22^3 II. 53^3 III. 15^3 IV. 103^3 V. 105^3

VI. 18^3 VII. 46^3 VIII. 27^3 IX. 98^3 X. 96^3

03) Find the value of $5\ [17^3+3 \times 17^2 \times 3 + 3 \times 17 \times 3^2 + 3^3]$

04) Find the value of $\frac{1}{2}\ [54^3 - 3 \times 54^2 \times 4 + 3x\ 54 \times 4^2 - 4^3]$

05) It $a+b = 5_6$ and $ab = 3$ find $a^3 + b^3$

06) It $a - b = 10$ and $ab=4$ find $a^3 - b^3$

07) It $a + \frac{1}{a} = 6$ find $a^3 + \frac{1}{a^3}$

Unit – 07 – Algebraic functions

01)Simplify.

I. $\frac{2}{x+3} + \frac{1}{x-1}$ II. $\frac{2}{x^2-7x+12} + \frac{1}{2x-8}$

III. $\frac{a}{a-b} + \frac{b}{a^3-b^2}$ IV. $\frac{a-3}{a^2-3a-4} + \frac{a-1}{a^2-a-2}$

V. $\frac{2y}{y^2-9} + \frac{1}{a+3}$ VI. $\frac{12}{x-3} + \frac{5}{3-x}$

02) Simplify

I. $\frac{x^2-4a^2}{ax+a^2} \times \frac{2a}{x^2-2ax}$ II. $\frac{2y^2+5y+2}{y^2-9} \times \frac{y^2+3y}{y^2+9y+4}$

III. $\frac{12a^4b}{5a} \times \frac{15a^2b^3}{4ab^2}$ IV. $\frac{x}{2y+5} \times \frac{4y^2+10y}{3x^2}$

V. $\frac{x^4-4}{x+1} \times \frac{x^2+2x+1}{x+2}$ VI. $20x^5y^2 \div \frac{5x^2y^4}{a}$

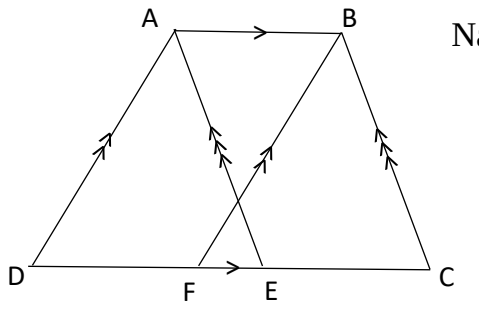
VII. $\frac{x^2-3x+2}{x^2-4x-12} \div \frac{x^2-4}{x^2-7x+6}$ VIII. $\frac{a^2-121}{a^2-4} \div \frac{a+11}{a+2}$

IX. $\frac{4x+12}{x^2-25} \div \frac{x+3}{2x-10}$

X. $\frac{a^2-3a-28}{2a+8} \div \frac{3a-21}{4}$

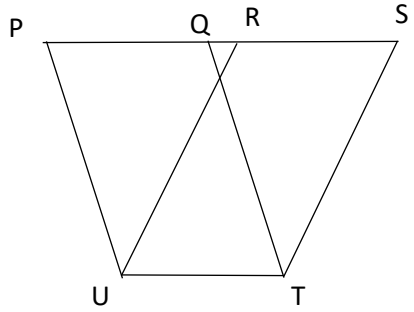
Unit 08 – Area of Plane figures between Parallel Straight Lines.

01.



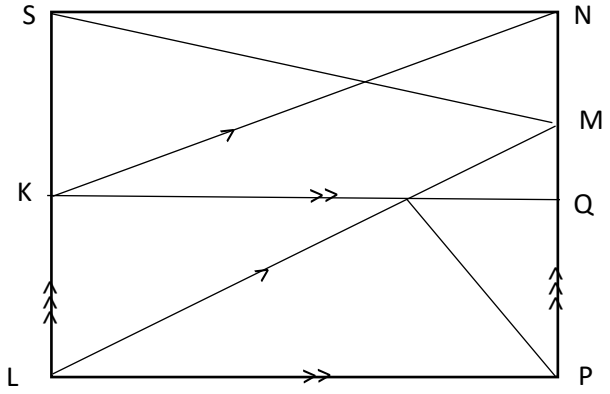
Name teo parallelegrams which are equal in area.

02.

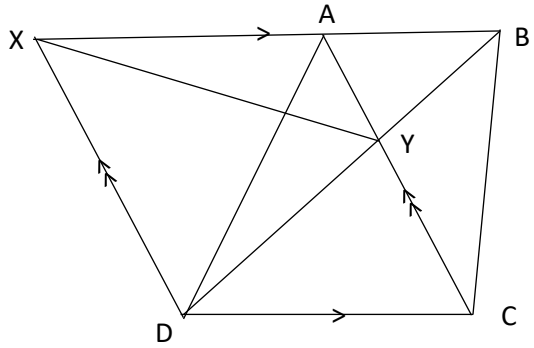


In this figure PU \\QR, RU\\SR. Prove that the area of quadrilateral PQLU and RSTL are equal.

03. KNML and KLPQ are rwo parallelograms. PQMN is a straight line. LK produced to S. prove that the area of triangle PRL and MNS are equal.



04.



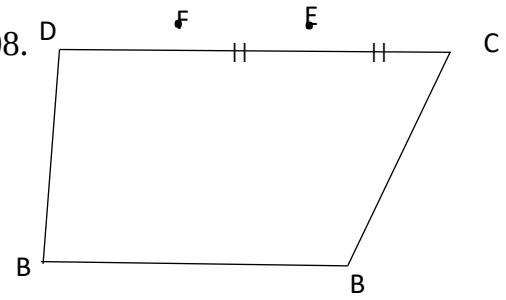
ABCD is aTaxpexium AS\\DC. CA parallel to DX. prove that Δ XDY = Δ SDC

05. ABCD is a quadrilateral, P is any pointon BC. That Parallel lines, drawn through B to AP and drawn through C to DP meet at X. prove that the area of Triangle XAD is equal to quadrilateral ABCD.

06. ABCD is a parallelgram. side DA is produced to X prove that the area of triangle XCD is equal to the area of quadrilatisal BCAX.

07. X is any point on the side BC of parallelagram ABCD. AB meets produced DX at P and DC meets produced AX at Q. prove that the area of triangle PXQ is exactly half the area of parellelagram ABCD..

08.



In this figure E, F are points on DC such that CE=EF produced AF and BF meet at G. If AF=FG anf BE=EG prove that the area of quadrilateral BCGF and ABCF are equal.

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