

MATHS

BOOKS - TELUGU ACADEMY MATHS (TELUGU ENGLISH)

IPE:MAY-2018(AP)



1. Find the equation of the straight line passing through $(\,-4,5)$

and cutting off equal intercepts on the coordinate axes.



2. Find the value of a it the area of the triangle formed by the liners

x=0,y=0,3x+4y=a is 6 sq units.





3. Show that the points (1,2,3), (2,3,1) and (3,1,2) form an equilateral

triangle.

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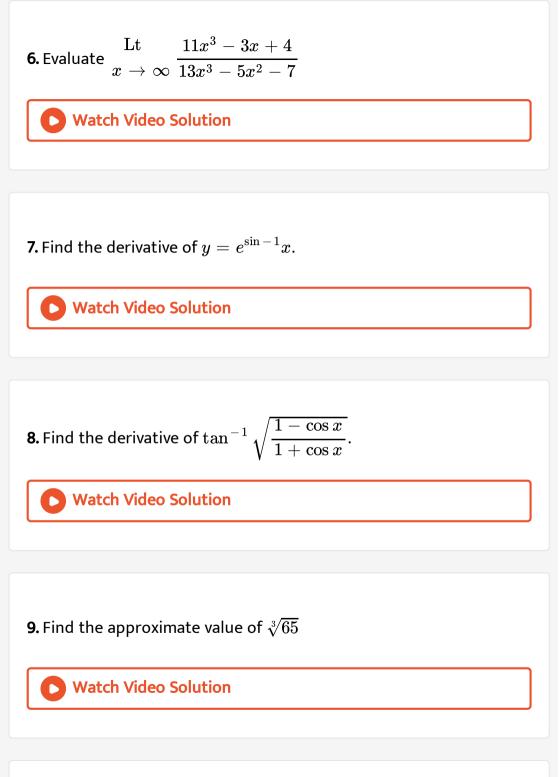
4. Find the equation of the plane passing through the point (1,1,1)

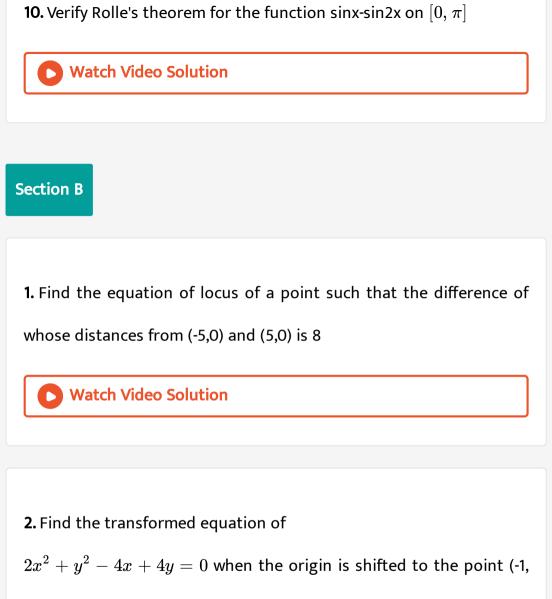
and parallel to the plane x + 2y + 3z - 7 = 0

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5. Compute
$$Lt_{x
ightarrow 0} rac{\sin ax}{\sin bx}, b
eq 0, a
eq b$$

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2)

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3. Find the equation of the straight line passing through A(-1,3) and (i) parallel (ii) perpendicular to the straight line passing through B(2,-5),C(4,6)



4. If f is given by
$$f(x) = egin{cases} k^2x-k & ext{if} \ x \geq 1 \ 2 & ext{if} \ x < 1 \end{bmatrix}$$
 is a continuous

function on R, then find k.

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5. Find the derivative of $\cos ax$ from the first Principle.



6. The volume of a cube is increasing at a rate of 9 cubie centimeters per second. How fast is the surface area increasing when the length of edge is 10 cms?



7. Find the length of subtangent subnormal at a pont t on the curve

$$x = a(\cos t + \sin t)y = a(\sin t - t\cos t)$$

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Section C

1. Find the orthocentre of the triagle whose vertices are (-2, -1)(6, -1), (2, 5).

2. S.T the equation $2x^2 - 13xy - 7y^2 + x + 23y - 6 = 0$ represents a pair of straight lines. Also find the angle between them and the coordinates of the point of intersection of the lines.

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3. Show that the lines joining the origin to the points of intersection of the curve $x^2 + xy + y^2 + 3x + 3y - 2 = 0$ and the straight line $x - y - \sqrt{2} = 0$ are mutually perpendicular .

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4. Show that the lines whose direction cosines are given by l+m+n=0,

2mn+3nl-5lm=0 are perpendicular to each other .

5.

$$y = an^{-1} igg(rac{2x}{1-x^2} igg) + an^{-1} igg(rac{3x-x^3}{1-3x^2} igg) - an^{-1} igg(rac{4x-4x^3}{1-6x+x^4} igg)$$
 then show that $rac{dy}{dx} = rac{1}{1+x^2}.$

lf

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6. S.T the curves $6x^2 - 5x + 2y = 0$, $4x^2 + 8y^2 = 3$ touch each other at $\left(\frac{1}{2}, \frac{1}{2}\right)$.

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7. Find two positive numbers whose sum is 15 so that the sum of their squares is minimum.

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