



MATHS

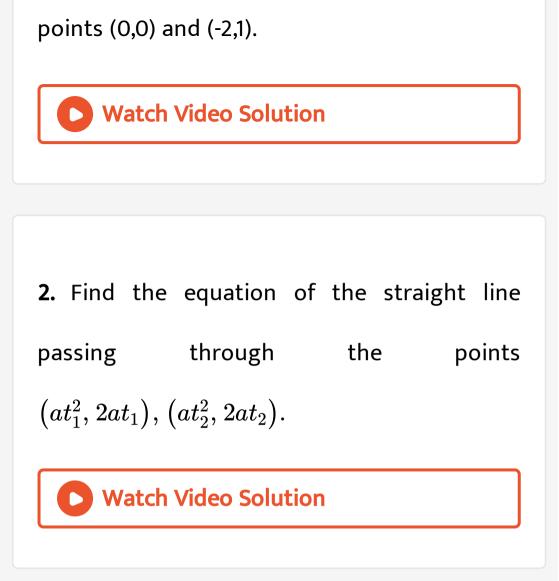
BOOKS - TELUGU ACADEMY MATHS (TELUGU ENGLISH)

IPE:MARCH-2014



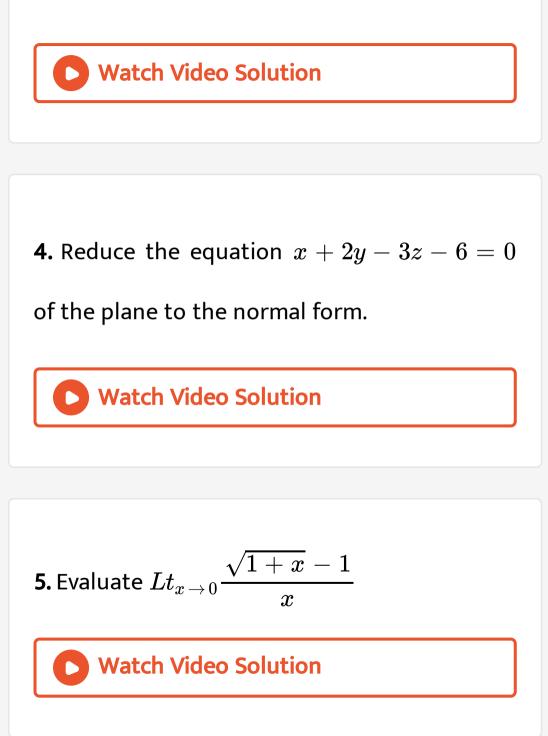
1. Find the ratio in which the straight line

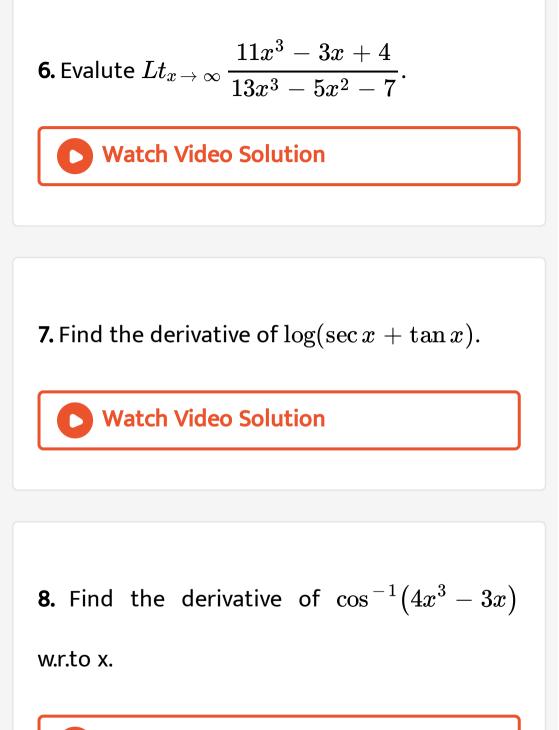
2x+3y-5=0 divides the line joining the



3. If (3,2,-1),(4,1,1) and (6,2,5) are three vertices and (4,2,2) is the centroid of a tetrahedro, find

the fourth vertex to that tetrahedron.

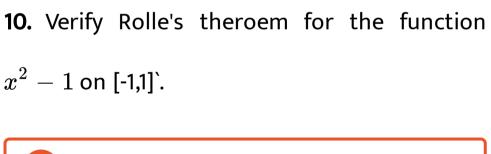




9. If $y = x^2 + 3x + 6$ then find riangle y and dy

when $x=10, \ riangle x=0.01.$





1. Find the locus of P(x,y) which moves such that its distances from A(5,-4),B(7,6) are in the ratio 2:3.

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- 2. When the axes are rotated through an angle
- α , find the transformed equation of

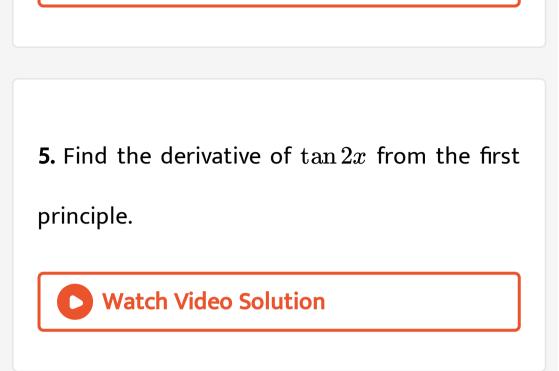
 $x\coslpha+y\sinlpha=p.$

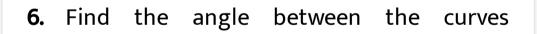
3. Find the value of y, if the line joining (3,y) and (2,7) is parallel to the line joining the points (-1,4) and (0,6).

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4. Is f given by
$$f(x) = \begin{cases} rac{x^2 - 9}{x^2 - 2x - 3} & ext{if } 0 < x < 5 \ ext{and } x \neq 3 \\ 1.5 & ext{if } x = 3 \end{cases}$$

, continuous at the points 3 .





x + y + 2 = 0 and $x^2 + y^2 - 10y = 0$

7. The volume of a cube is increasing at a rate of 8 cubie centimeters per second. How fast is the surface area increasing when the length of

the edge is 12 cm?

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Laq

1. If $ax^2 + 2hxy + by^2 + 2gx + 2fy + c = 0$

represents a pair of lines then prove that

 $riangle = abc + 2fgh - af^2 - bg^2 - ch^2 = 0.$

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2. If
$$ax^2 + 2hxy + by^2 + 2gx + 2fy + c = 0$$

represents two parallel lines then prove that $h^2 = ab.$

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3. Find the condition for the chord lx + my=1 of the circle $x^2 + y^2 = a^2$ to subtend a right

angle at the origin.



4. If the vertices of a triangle are A(1, 4, 2), B(-2, 1, 2), C(2, 3, -4) then find $\angle A, \angle B, \angle C$.

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5. Find the derivative of $x^{\tan x} + (\sin x)^{\cos x}$

w.r. to x.

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6. IF the tangent at a point on the curve $x^{2/3} + y^{2/3} = a^{2/3}$ intersects the coordinate axes in A and B then show that the length AB is a constant.

7. From a rectangular sheet of dimensions 30cm imes 80cm, four squares of sides x cm are

removed at the corners, and the sides are then turned up so as to form an open rectangular box. What is the value of x, so that the volume of the box is the greatest?