

# Assignment 2

sample maths question paper using latex

January 5, 2023

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**All questions carry equal marks**

1. calculate the product of two matrices  $\begin{bmatrix} 1 & 2 & 3 \\ 4 & 5 & 6 \\ 7 & 8 & 9 \end{bmatrix} \begin{bmatrix} 1 & 2 & 3 \\ 4 & 5 & 6 \\ 7 & 8 & 9 \end{bmatrix}$

2. Mod: As a binary operation, use `\bmod`:  $x \bmod N$ . As a relation use `\mod`, `\pmod`, or `\pod`:

$$\begin{aligned} x &\cong y \pmod{10} \\ x &\cong y \pmod{10} \\ x &\cong y \pmod{10} \end{aligned}$$

3. find the inverse of matrix  $\begin{bmatrix} 2 & 3 & 4 \\ 5 & 6 & 7 \\ 3 & 2 & 3 \end{bmatrix}$

4. evalute this  $\sqrt{3x-1} + (1+x)^2$

5. solve this differntial equation  $dy/dx = 3x^2 + 5x$