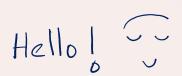


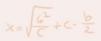
৯ম শ্রেণি একাডেমিক প্রোগ্রাম ২০২০

# উচ্চত্র গণিত

লেকচার: HM-14

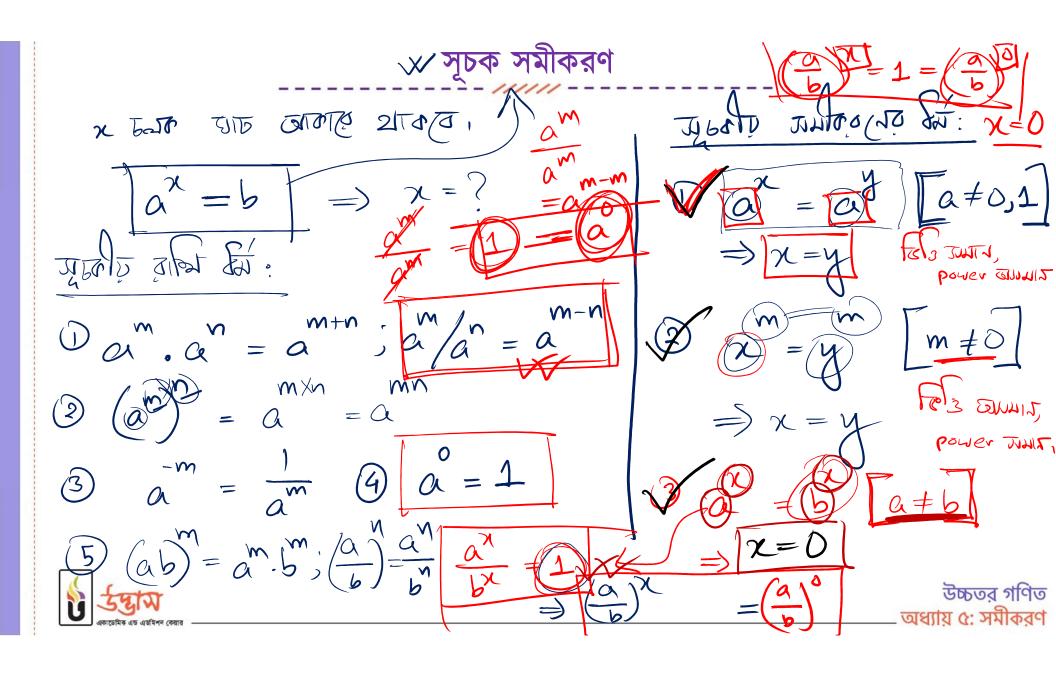
অধ্যায় ৫: সমীকরণ











# গাণিতিক সমস্যা - অনু: ৫.৩(১)

$$3^{x+2} = 81$$

$$\Rightarrow 3^{142} = 3^4$$

$$\Rightarrow$$
  $x+2=4$ 

$$=) \chi = 4-2$$

= 2 Am

### গাণিতিক সমস্যা - অনু: ৫.৩(২)

$$\Rightarrow \frac{5^{2x}}{5^{x+3}} = \frac{x-3}{b^{x-3}}$$

$$\Rightarrow 5^{2x-x-3} = \frac{a}{b}$$

$$= \int_{a}^{x-3} = \frac{a}{b}$$

$$=) \frac{5^{x}}{\left(\frac{a}{b}\right)^{x-3}} = 1$$

$$\int \frac{a^{m}}{a^{n}} = a^{m-n}$$

$$\frac{\partial}{\partial m} = \alpha$$

$$\frac{\partial}{\partial m} = \alpha$$

$$\frac{\partial}{\partial m} = \alpha$$

$$\Rightarrow \left(\frac{5}{\frac{a}{b}}\right)^{k} = 1$$

$$\Rightarrow \left(\frac{5b}{a}\right) = 1$$

$$\Rightarrow \left(\frac{5b}{a}\right) = \left(\frac{5b}{a}\right)$$

$$=$$
  $\chi - 3 = 0$ 





উচ্চতর গণিত অধ্যায় ৫: সমীকরণ

#### **Poll Question-01**

$$\Box \frac{1}{4} = 16^{2x-5}$$
 হলে, x এর মান কত?

(a) 
$$-\frac{11}{4}$$

$$(c) \frac{9}{4}$$

$$\frac{1}{4} = 16$$

$$\frac{1}{2^2} = (26)^{2x-5}$$

$$(2)^{-2} = (2)^{8x-20}$$

$$-2 = 8x - 20$$

$$8x = 20 - 2$$

$$x = \frac{18}{8} = \frac{9}{4}$$



## গাণিতিক সমস্যা - অনু: ৫.৩(৫)

$$4\frac{1}{5} = (64\frac{1}{11})^{2x+7}$$

$$4\frac{4x+7}{5} = 64$$

$$4x+7$$

$$4x+7$$

$$5\sqrt{4x+7}$$

$$4x+7$$

$$5\sqrt{4x+7}$$

$$4x+7$$

$$5\sqrt{4x+7}$$

$$4x+7$$

$$6x+21$$

$$6x+21$$

$$(5)4)$$
 =  $(1)64)$ 

$$\sqrt{1} = \chi$$

$$\Rightarrow$$
 44x +77 = 30x +105

$$=) 14x = 28$$

$$\Rightarrow x = 2 / Au$$



### গাণিতিক সমস্যা - অনু: ৫.৩(৬)

$$\Rightarrow \frac{3^{3x-4}}{3^{x+1}} = \frac{a^{2x}}{a^{5} \cdot a^{2x-5}}$$

$$\Rightarrow 3x-4-x-1 = \frac{2x}{a^{5+2x-5}}$$

$$= 3 = \frac{24}{24}$$

$$\Rightarrow \boxed{3}^{2x-5} = \boxed{1}$$

$$a^{m}/a^{n} = a^{m-n}$$

$$a^{m} = a^{m+n}$$

$$a^{m} = a^{m+n}$$

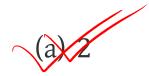
$$3 = 3$$

$$\frac{1}{2}2x-5=0$$

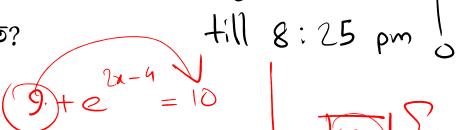
$$\Rightarrow x = \frac{5}{2} //$$
Auri

#### **Poll Question-02**

 $\Box$  9 + e<sup>2x-4</sup> = 10 হলে, x এর মান কত?



- (b) 3
- (c) 7
- (d) 0

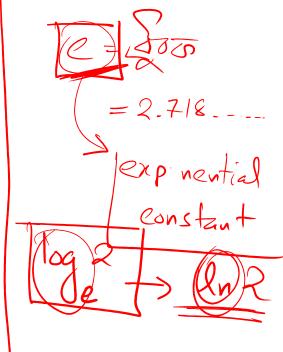


$$e^{2\chi-4} = 10-9 = 1$$

$$2x-4$$
 0  $e = e$ 

$$2x-4=0$$

$$x=2$$





উচ্চতর গণিত

# গাণিতিক সমস্যা - অনু: ৫.৩(৯)

$$a(a-1)-25(a-1)=0$$

♦ 
$$5^x + 5^{2-x} = 26$$

$$\Rightarrow 5^{x} + 5^{2} - 5^{-x} = 26$$

$$= ) 5^{x} + 5^{x} - 26$$

$$\Rightarrow 5^{x} + \frac{25}{5^{x}} = 26$$

$$\Re (5^{x}) = \alpha$$

$$\Rightarrow \alpha + \frac{25}{\alpha} = 26$$

$$\begin{bmatrix} a & +n & m & n \\ a & -a & -a \end{bmatrix}$$

$$a = -m$$

$$=\frac{a^{2}+25}{a}=26$$

$$=$$
  $a^{2}+25=26a$ 

$$=$$
  $a^{2}-26a+25=0$ 

$$(a-1)(a-25)=0$$

$$\alpha = 1$$

$$5^{x} = 1 = 5^{0}$$

$$a = 25$$

$$5^{\times} = 5^{1}$$

$$\lambda x = 2$$

উচ্চতর গণিত

অধ্যায় ৫: সমীকরণ



গাণিতিক সমস্যা - অনু: ৫.৩(১০)  $\chi = \frac{-6 \pm \sqrt{5 - 4ac}}{2a}$ 

$$\chi = \frac{-6 \pm \sqrt{b^2 4ac}}{2a}$$

$$4.3^{(9)} - 4.3^{(x-1)} + 1 = 0 \qquad x = 7$$

$$= 3 \left[ \left( \frac{3}{3} \right)^{2} - 4 \cdot 3^{2} \right] + 1 = 0$$

$$\Rightarrow 3.3^{2x} - 3.4.3^{x-1} + 1 = 0$$

$$\Rightarrow 3.(3^{x}) - 4.3^{4x+1} + 1 = 0$$

$$=) 3 - (3^{x}) - 4 \cdot (3^{x}) + 1 = 0$$



$$3p' - 4p + 1 = 0$$

$$\Rightarrow 3\rho - 3\rho - \rho + 1 = 0$$

$$\Rightarrow 3p(p-1)-1(p-1)=0$$

$$=) (p-1) (3p-1) = 0$$

$$3^{2} = 1 = 3$$

$$x = 0$$

$$3P-1=0$$
 $P=\frac{1}{3}=3^{-1}$ 

$$3^{1} = 3^{-1}$$

উচ্চতব গণিত

অপ্রায় ৫: সমীকরণ

#### **Poll Question-03**



- (b) 3
- (c)1
- (d) 0

$$4^{2x^{2}+2x}=8$$

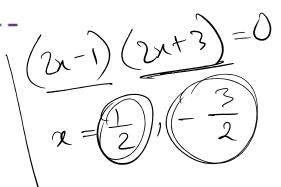
$$\Rightarrow (2^{\sqrt[3]{2x^{2}+2x}} = 2^{3}$$

$$\Rightarrow \frac{4x^2+4x}{2} = 2^{\frac{3}{2}}$$

$$= 34x^{2}+4x-3=0$$

$$\Rightarrow 4\pi - 2n + 6n - 3 = 0$$

$$\Rightarrow 2x(2x-1) + 3(2x-1)=0$$



$$| x | = \frac{1}{2} - \left( -\frac{3}{2} \right)$$

$$=\frac{1}{2}+\frac{3}{2}$$

$$=\frac{4}{2}$$





উচ্চতর গণিত

অধ্যায় ৫: সমীকরণ

1-0.1=(0-9)= (PTP) PJP 365 365







X= cap 125

না বুঝে মুখস্থ করার অভ্যাস প্রতিভাকে ধবংস করে

