



**PEMERINTAH PROVINSI LAMPUNG  
DINAS PENDIDIKAN DAN KEBUDAYAAN  
SMA NEGERI 1 PENAWAR AJI**



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**ASESMEN SUMATIF TENGAH SEMESTER GANJIL  
TAHUN PELAJARAN 2024/2025**

**MATA PELAJARAN : MATEMATIKA**

**KELAS : X**

**GURU MATA PELAJARAN : ASTERIA PUSPITA NINGRUM, S.Pd., Gr.**

Tentukan nilai x pada persamaan berikut:

1.  $7^{8x+18} = 1$

Jawab :

$$7^{8x+18} = 1$$

$$7^{8x+18} = \dots\dots\dots$$

$$\dots\dots + \dots\dots = \dots\dots$$

$$\dots\dots = \dots\dots$$

$$\dots\dots = \frac{\dots\dots}{\dots\dots}$$

$$\dots\dots = \frac{\dots\dots}{\dots\dots}$$

$$2. \quad 3^{2x-7} = \frac{1}{81}$$

Jawab:

$$3^{2x-7} = \frac{1}{81}$$

$$3^{2x-7} = \frac{\dots}{\dots}$$

$$3^{2x-7} = \dots \dots \dots$$

$$\dots - \dots = \dots$$

$$\dots = \dots + \dots$$

$$\dots = \dots$$

$$\dots = \frac{\dots}{\dots}$$

$$3. \quad 8^{5x+9} = 16^{7x-5}$$

Jawab:

$$8^{5x+9} = 16^{7x-5}$$

$$(\dots \dots \dots)^{\dots} + \dots = (\dots \dots \dots)^{\dots} - \dots$$

$$\dots \dots \dots + \dots = \dots \dots \dots - \dots$$

$$\dots + \dots = \dots - \dots$$

$$\dots - \dots = \dots - \dots$$

$$\dots = \dots$$

$$\dots = \frac{\dots}{\dots}$$

$$\dots = \frac{\dots}{\dots}$$

$$4. \left(\frac{1}{125}\right)^{-x+2} = 8^{3x-6}$$

Jawab:

$$\left(\frac{1}{125}\right)^{-x+2} = 8^{3x-6}$$

$$\left(\frac{\dots}{\dots}\right)^{\dots + \dots} = (\dots \dots \dots)^{\dots - \dots}$$

$$(\dots \dots \dots)^{\dots + \dots} = (\dots \dots \dots)^{\dots - \dots}$$

$$\dots^{\dots - \dots} = \dots^{\dots - \dots}$$

$$\dots - \dots = \dots$$

$$\dots = \dots$$

$$\dots = \frac{\dots}{\dots}$$

$$\dots = \dots$$