

BE-Precalc / TUESDAY 11-24-09

① Change to EXPONENTIAL form:

Ⓐ $\log_{27} 3 = \frac{1}{3}$

Ⓑ $\log_{16} 4 = \frac{1}{2}$

② Change to logarithmic form:

Ⓐ $81^{\frac{1}{2}} = 9$

Ⓑ $36^{\frac{3}{2}} = 216$

③ EVALUATE:

Ⓐ $\log_8 64 = ?$

Ⓑ $\log_{125} 5 = ?$

④ Solve: $\log_8 48 - \log_8 X = \log_8 6$

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(DR)

⑤ Solve: $\log_{12} X = \frac{1}{2} \log_{12} 9 + \frac{1}{3} \log_{12} 27$

• Homework review (next 02)

⑤ ANS $\Rightarrow \log_{12} X = \frac{1}{2} \log_{12} 9 + \frac{1}{3} \log_{12} 27$

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(PPR)

$$\log_{12} X = \log_{12} 9^{\frac{1}{2}} + \log_{12} 27^{\frac{1}{3}}$$

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$$\log_{12} X = \log_{12} 3 + \log_{12} 3$$

(MR)

$$\log_{12} X = \log_{12} 3 \cdot 3$$

$$\therefore X = 9$$

Homework: memorize the 3 Log Rules $\Rightarrow$ Pg 720

1.
Homework review: Pg 722-723 # 7-15000

$$\textcircled{7} \quad \log_{\frac{1}{25}}(5) = -\frac{1}{2} \quad \text{or} \quad \boxed{\left(\frac{1}{25}\right)^{-\frac{1}{2}} = 5}$$

$$\textcircled{9} \quad 8^{-\frac{2}{3}} = \frac{1}{4} \quad \text{or} \quad \boxed{\log_8\left(\frac{1}{4}\right) = -\frac{2}{3}}$$

$$\textcircled{11} \quad \log_{10} 0.01 \Rightarrow \log_{10}\left(\frac{1}{100}\right) = x$$

$$10^x = \frac{1}{100} \quad \therefore \quad \boxed{x = -2}$$

$$\textcircled{13} \quad \log_2 x = 5 \Rightarrow 2^5 = x$$

$$\boxed{x = 32}$$

$$\textcircled{15} \quad \log_6(4x+4) = \log_6(64)$$

$$\therefore 4x+4 = 64$$

$$4x = 60$$

$$\boxed{x = 15}$$