

Quiz on 10.1

Homework Questions?

$(32) 16^{x+1} = 8^{x+3}$ $16^6 = 8^8$
 $2^{4(x+1)} = 2^{3(x+3)}$
 $4x+4 = 3x+9$
 $-3x = 4 - 3x - 4$
 $x = 5$

Mar 29-9:10 AM

Jan 26-8:35 AM

$(33) \left(\frac{1}{9}\right)^{2-x} = 729$
 $9^{-1(2-x)} = 9^3$
 $-2+x = 3$
 $x = 5$

$(31) 36^{\left(\frac{1}{3}\right)^x} = 4$ base power
 $\frac{36^x}{36} = \frac{1}{36}$
 $\left(\frac{1}{3}\right)^x = \frac{1}{9}$ $\frac{x}{5} = 2$
 $\left(\frac{1}{3}\right)^x = \left(\frac{1}{3}\right)^2$ $x = 10$

Apr 19-7:46 AM

Apr 19-7:49 AM

$(24) \ln \frac{1}{\sqrt{e^7}}$ $\log_e \frac{1}{\sqrt{e^7}}$ $\log_e \frac{1}{e^{\frac{7}{2}}}$
 $\log_e e^{-\frac{7}{2}}$
 $-\frac{7}{2}$

Properties of Logarithms Day 2

Expand...

$(1) \ln 8x$
 $\ln 8 + \ln x$
 $\ln 2^3 + \ln x$
 $3 \ln 2 + \ln x$

Apr 19-7:51 AM

Jan 26-8:32 AM

Multiplying
 $\log 3X$ $\log 3 + \log X$
 condensed \longleftrightarrow expand

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Dividing
 $\log \frac{3}{X}$ $\log 3 - \log X$
 condensed \longleftrightarrow expand

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Power
 $\log X^5$ $5 \log X$
 condensed \longleftrightarrow expand
 (no powers)

Apr 19-7:57 AM

⑤ $\log \frac{3}{X}$
 $\log 3 - \log X$

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① $\log X^3 Y^2$
 $3 \log X^3 + \log Y^2$
 $3 \log X + 2 \log Y$

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Condense...
 ⑬ $\log(X) + \log(Y)$
 $\log XY$

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(15) $\ln(4) - \ln(3)$ $\ln \frac{4}{3}$

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(19) $4 \log(xy) - 3 \log(yz)$
 $\log(xy)^4 - \log(yz)^3$
 $\log(x^4 y^4) - \log(y^3 z^3)$
 $\log \frac{x^4 y^4}{y^3 z^3}$ $\log \frac{x^4 y}{z^3}$

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Use calculator...

(25) $\log_2 8 = \frac{\log 8}{\log 2} = 3$

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(29) $\log_5 10 = \frac{\log_{10} 10}{\log_{10} 5} = 1.431$

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(36) $\log_8 1000 = \frac{\log_{10} 1000}{\log_{10} 8}$
 $\frac{\log_{10} 64}{\log_{10} 8} = \frac{\log_{10} 8^2}{\log_{10} 8} = 2$
 3.144

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Change of base $\log_b c = \frac{\log c}{\log b}$

Apr 19-8:16 AM