

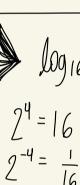
$$\log_{2} \frac{1}{8} = x = -3 \qquad \log_{2} \frac{1}{2} = -\frac{1}{3} \qquad x = \frac{1}{3}$$

$$8^{-\frac{1}{3}} = 2$$

$$8^{-\frac{1}{3}} = \frac{1}{9^{\frac{1}{3}}} = \frac{1}{2}$$

$$\log_{16} \left(\frac{1}{2}\right) = -\frac{1}{4}$$

 $\begin{cases} x = 1 \end{cases}$



 $|6^{\frac{1}{4}}| = 2$

 $16^{-\frac{1}{4}} = \frac{1}{2}$

 $\left(8 \left| \frac{1}{4} \right|^{-3} = 3^{-3} \Rightarrow \frac{1}{4} \cdot \frac{3}{4} = \frac{3}{4} = \frac{1}{27} \left| \frac{3}{4} \right|^{-3}$



LOG₂ 8 = 3

 $\left| \left| \right|^{X} = \frac{1}{27} \right|$

 $8|\frac{1}{4} = \sqrt{81} = 3$

 $\left(8\right)^{\frac{1}{4}} = \frac{1}{27}$

 $\left(8\right)_{\frac{1}{4}}^{\chi} = \frac{3}{3}$







 $log_{8}2 = \frac{7}{3}$

$$y_{\frac{1}{5}}(5) = -1$$

$$\left(\frac{1}{5}\right)^{x} = 5$$

$$5' = 5$$

$$32$$
 $8 = 2$

$$= \frac{1}{2^5} = 2^{-5}$$

$$= 2^{-5}$$

$$8^{x} = \frac{1}{32}$$

$$8^{\frac{1}{3}} = \sqrt[3]{8} = 2$$

$$\frac{1}{32} = \frac{1}{2^{5}} = 2^{-5}$$

$$(8^{\frac{1}{3}})^{x} = 2^{-5}$$

 $\left(\sqrt{\frac{1}{3}}\right)^{-5} = \sqrt{-5}$

 $8^{-\frac{5}{3}} = 2^{-5}$

 $\log_{125}(5) = 1$

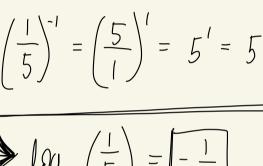
 $125^{\frac{1}{3}} = \sqrt[3]{125} = 5$

 $5^3 = 125$

$$\left(\frac{1}{5}\right)^{-1}$$

 $25^{\frac{1}{2}} = 5$

 $25^{-\frac{1}{2}} = \frac{1}{5}$



$$\left(\frac{1}{5}\right)$$

Degg (3) = 14

 $8|\frac{1}{4} = \sqrt{81} = 3$

$$2^{5} = 32$$

$$\left(\frac{1}{2}\right)^{-5} = \left(\frac{2}{1}\right)^{5} = 2^{5} = 32$$

$$1 \quad | \log_{10}(100) = 2$$

$$| X \quad | Y = b^{X} | X \quad | Y = \log_{10}X$$

$$1 \quad | \log_{10}(1) = 0$$

$$1 \quad | 1 \quad | \log_{10}(1) = 0$$

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$$2 \quad | 1 \quad | 1 \quad | \log_{10}(1) = 0$$

$$3 \quad | 1 \quad |$$

 $\frac{1}{2}(32) = [-5]$

70 = 1 D= 1

 $100 = 10^2$

$$b^{1.585} = 3 \qquad c = \frac{3}{2}, d = \frac{1}{2}$$

$$\log_{10}(a) = 0$$

$$\log_{10}(2) = 1.0$$

$$log_{b}(a) = 0$$

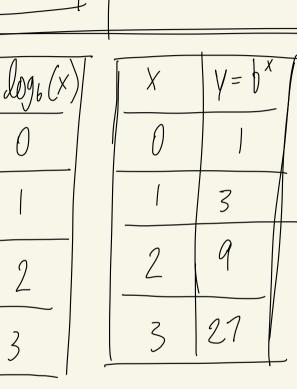
$$log_{b}(2) = 1.0$$

 $d = \frac{1}{2}$

$$0.25 = 2^{-2}$$

$$\log_{8}(5/2) = 3$$

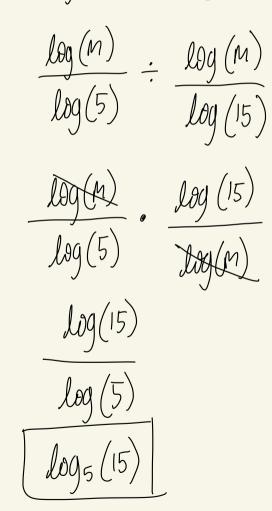
$$8^{3} = 5/2$$



83 = 512

$$\lim_{N \to \infty} \left(1 + \frac{1}{N} \right)^n = 2 \cdot 2.7182818$$

$$\begin{array}{c|c} & & & & & & \\ & & & & \\ & & &$$







$$\frac{100(16)}{100(2)}$$
, $\frac{100(2)}{100(2)}$

logz (c)

log2 (16) = 4

$$\frac{\log(3)}{\log(3)} = \frac{\log(3)}{\log(3)} = \frac{\log(3)}{\log(3)}$$

$$\frac{\log(3)}{\log(3)} = \frac{\log(3)}{\log(3)}$$

$$\frac{\log(3)}{\log(3)} = \frac{\log(3)}{\log(3)} = \frac{\log(n)}{\log(3)}$$



$$\frac{\log_3(a) \cdot \log(3)}{\log(a) \cdot \log(3)} = \int_a^b$$

$$log_{a}(x) = y \qquad log_{a}(x) = \frac{log_{b}(x)}{log_{b}(a)}$$

$$log_{a}(X) = y$$

$$log_{a}(X) = \frac{log_{b}(X)}{log_{b}(a)}$$

$$log_{b}(a^{y}) = log_{b}(x)$$

$$y log_{b}(a)$$

$$log_{a}(X) = \frac{log_{b}(x)}{log_{b}(a)}$$

$$log_{b}(a^{y}) = log_{b}(x)$$

$$\frac{y \log_b(a)}{\log_b(a)} = \frac{\log(b^x)}{\log(b^9)}$$

$$\log_b(a) = \frac{\log(b^x)}{\log(b^9)}$$

$$log_{z}(3a)$$

$$log_{z}(2y) + log_{z}(8)$$

$$log_{z}(3) + log_{z}(a)$$

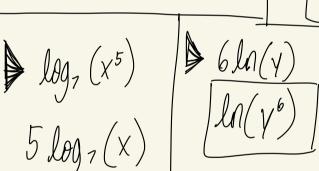
$$log_{b}(2y \cdot 8) = log_{z}(16y)$$

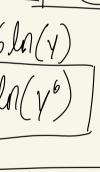
$$log_{b}(4) - log_{b}(c)$$

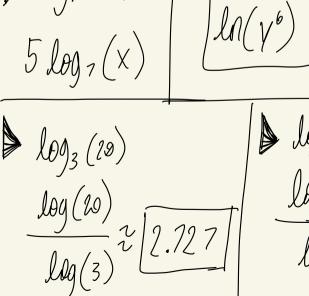
$$log_{b}(4) - log_{b}(c)$$

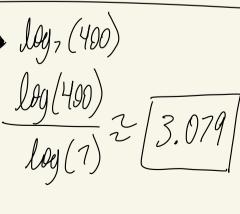
$$log_{c}(3z) - log(8)$$

$$log_{c}(3z) - log(8)$$

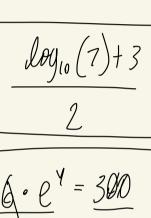








№ Mgy (0.3)



10^{2t-3} = 7

$$\frac{6 \cdot e^{4}}{6} = \frac{300}{6}$$

$$e^{4} = 50$$

$$\frac{3 \cdot 10^{4t} = 522}{3}$$

$$10^{4t} = 174$$

$$log_{10}(174) = 4t$$

$$\frac{1}{4}$$

$$1 = log_{10}(174)$$

$$1 = 174$$

$$1 = 174$$

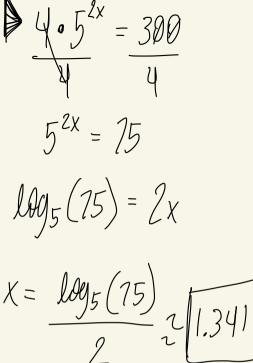
$$1 = 174$$

$$1 = 174$$

30.22 = 200

Log3 (200) = 0.22 0.2





1093 (290) 0,2 2 24.114

$$(2^{x}-3)(2^{x}-4) = 0$$

$$2^{x}-3 = 0$$

$$2^{x}-4 = 0$$

$$2^{x} = 3$$

$$2^{x} = 4$$

$$\begin{array}{c|c} 10^{5t} = \frac{20}{11} & e^{4x} = 26 \\ \log_{10}\left(\frac{20}{11}\right) = 5t & \log_{10}\left(\frac{26}{11}\right) = 5t \end{array}$$

 $\frac{1}{1}$

 $t = \frac{\log_{10}\left(\frac{20}{11}\right)}{5} \approx \sqrt{0.052}$

$$\frac{5}{5} \frac{12}{5}$$

$$\frac{5 \cdot 2^{t} = 111}{5}$$

$$\frac{1}{5} \frac{1}{5}$$

$$\frac{1}{5} \frac{1}{5} \frac{1}{5} \frac{1}{5}$$

$$\frac{1}{5} \frac{1}{5} \frac{1}{5} \frac{1}{5}$$

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$$\frac{1}{5} \frac{1}{5} \frac{1$$

-7	= +
-0.125	log10 (2)
	t2 7.796
$2^{9.5y} = -5$	$loy_2\left(\frac{1}{20}\right)$
m00	

V=5.2t

log (1/20) = 0.5y

$$\frac{500 \cdot 5^{\frac{1}{3}}}{500} = \frac{1}{500}$$

$$5^{\frac{1}{3}} = \frac{1}{500}$$

$$2^{\frac{x}{5}} = 50$$

$$3 \log_{5}(500) = 3 \cdot 3$$

$$3 \log_{5}(\frac{1}{500}) = y$$

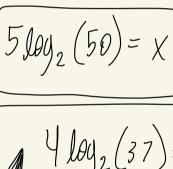
$$1 = -11500$$

 $50.5^{\frac{1}{3}} =$

 $2^{\frac{x}{4}} = 37$

 $log_2(37) = \frac{x}{4}$

$$Y = -11.584$$
 $8 \cdot 2^{\frac{x}{4}} = 222$



$$\beta(t) = 10 \cdot 2^{\frac{120}{12}}$$

$$\beta(120) = 10 \cdot 2^{\frac{120}{12}}$$

$$\beta(120) = 10 \cdot 2^{\frac{100}{12}}$$

$$\frac{\log_e\left(\frac{1}{20}\right) = -0.8t}{-0.8t}$$

$$t = \frac{\log_{e}(\frac{1}{10})}{-0.8}$$

 $M(t) = 20 \cdot e^{-0.8t}$

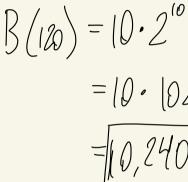
 $\frac{1}{0} = \frac{20 \cdot e^{-0.8t}}{20}$

7D

 $e^{-0.8t} = \frac{1}{20}$

$$\frac{\left(\frac{1}{10}\right)}{2450} = 2000e^{0.14}$$

 $log_e\left(\frac{49}{40}\right) = 0.1 + t = log_e\left(\frac{49}{40}\right)$



$$B(t) = 2500 \cdot 2^{0.01t}$$

$$B(25) = 2500 \cdot 2^{0.01(25)}$$

$$= 2500 \cdot 2^{0.01(25)}$$

$$= 2500 \cdot 2^{0.25}$$

$$= 2500 \cdot 2^{0.25}$$

$$= 2773$$

$$\frac{3}{4} = 2^{-\frac{t}{15}}$$

$$=22500 \cdot [0^{-\frac{\epsilon}{12}}]$$

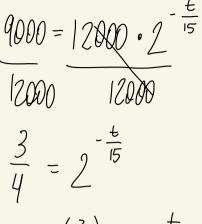
$$| = 22500 \cdot | 0^{-12}$$

$$\frac{2500}{2500} = 22500 \cdot 10^{-\frac{1}{12}}$$

$$\frac{4}{0} = 10^{-\frac{1}{12}}$$

 $loy_{10}\left(\frac{4}{9}\right) = \frac{\pm}{12}$

 $-12 \log_{10}\left(\frac{4}{9}\right) = 4$



$$\begin{array}{ccc}
4 & 2 \\
\log_2\left(\frac{3}{4}\right) & = -\frac{t}{15}
\end{array}$$

$$-15 \log_2\left(\frac{3}{4}\right) = t$$

$$\log(\frac{3}{4}) = t$$

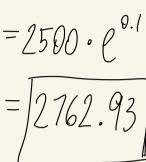
$$-15 \log_{2}(\frac{3}{4}) = t$$

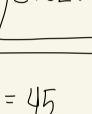
$$-15 \cdot \frac{\log(\frac{3}{4})}{\log(2)} = \frac{1}{2} (6.23)$$

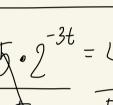


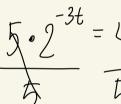


 $\beta(t) = 2500 \cdot e^{0.025t}$ B(4) = 2500 · e 0.025(4)









10^{8t} = 146

log10 (146) = Pt

t = 0.271

log10 (146)

$$M(t) = 20 \cdot e^{-0.8t}$$

$$\frac{1 = 20 \cdot e^{-0.8t}}{20}$$

 $e^{-\partial \mathcal{S}t} = \frac{1}{90}$

 $ln\left(\frac{1}{w}\right)$

 $\ln\left(\frac{1}{20}\right) = -0.8t$

t 2 3.74

 \Rightarrow 3 log(2)

 $log(2^3)$

loy (8)

$$\frac{q \cdot e^{2z} = 54}{q} \qquad \frac{\log_{16}(4) = \frac{1}{2}}{4}$$

$$\frac{16^{2z} = 6}{2} \qquad \frac{\log_{16}(4) = \frac{1}{2}}{16} \qquad$$

$$0.01 = (0^{-2})$$

$$100.0 (0.01)$$

- - LOY, (0.01) = -2

 $7^{24} = 35$

 $V = 100_{1}(35)$

log, (35) = 2y

6 Dy (681)

Log (681)

6.3.35244785

20.115