Happy Friday, January 13th!

Do Now:

1) Write homework questions on board

2) Expand $\log_2 \frac{4x}{7}$

$\log_2 4x - \log_2 7$

$\log_2 4 + \log_2 x - \log_2 7$

$\log_3 \sqrt[3]{x}$

$\log_3 x^{\frac{1}{2}}$

$\frac{1}{2}\log_3 x$

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Homework Questions:

12, 11, 14, 8

(8) $\log(a \cdot b)^2$

$2\log(a \cdot b)$

$2(\log a + \log b)$

$2\log a + 2\log b$

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(11) $\log \sqrt[3]{x \cdot y \cdot z}$

$\log (x \cdot y \cdot z)^{\frac{1}{3}}$

$\frac{1}{3} \log (x \cdot y \cdot z)$

$\frac{1}{3} (\log x + \log y + \log z)$

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(12) $\log (x \cdot y \cdot z^2)$

$\log x + \log y + \log z^2$

$\log x + \log y + 2\log z$

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(14)

$\log_3 6$

$\frac{1}{3}\log 6$

$\log 6^{\frac{1}{3}}$

$\log \sqrt[3]{6}$

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Expanding

Take it step by step!!!

$\log_6 \left(\frac{2}{5}\right)^8$

$8\log_6\left(\frac{2}{5}\right)$

$8(\log_6 2 - \log_6 5)$

$\log_6 \frac{2^8}{5}$

$\log_6 2^8 - \log_6 5$

$8\log_6 2 - \log_6 5$

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Condensing

Take it Step by Step!

$$3\log_4 m + \log_4 17 - 2\log_4 b$$

$$\log_4 m^3 + \log_4 17 - \log_4 b^2$$

$$\log_4 17m^3 - \log_4 b^2$$

$$\log_4 \frac{17m^3}{b^2}$$

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