Bellwork Alg 2B Monday, November 6, 2017

Solve each. Round to a hundredth.

1. $5\log_6 2x + 9 = 7$

2. $8 - 2\log_4(x+5) = 5$

3. $4 + \log_3(x-1) = \log_3 x$

4. $\log 5x + 2\log x - 1 = 3$

5. $2^{30} + 2^{30} + 2^{30} + 2^{30} =$

A. 8^{120}

B. 8^{30}

C. 2^{32}

D. 2^{30}

E. 2^{26}

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Answers

Solve each. Round to a hundredth.

1. $5\log_6 2x + 9 = 7$

$-9 \quad -9$

$\frac{5\log_6 2x}{5} = \frac{-2}{5}$

$\log_6 2x = -.4$

$6^{-.4} = 2x$

$x = 0.24$

2. $8 - 2\log_4(x+5) = 5$

$-8 \quad -8$

$\frac{-2\log_4(x+5)}{-2} = \frac{-3}{-2}$

$\log_4(x+5) = 3/2$

$4^{3/2} = x+5$

$(\sqrt{4})^3 = x+5$

$\pm 8 = x+5$

$x = 3, -13$

$x = 3$

3. $4 + \log_3(x-1) = \log_3 x$

$4 = \log_3 x - \log_3(x-1)$

$4 = \log_3\left(\frac{x}{x-1}\right)$

$3^4 = \frac{x}{x-1}$

$81 = \frac{x}{x-1}$

$81(x-1) = x$

$81x - 81 = x$

$80x = 81$

$x = 81/80$

4. $\log 5x + 2\log x - 1 = 3$

$+1 \quad +1$

$\log 5x + \log x^2 = 4$

$\log 5x^3 = 4$

$10^4 = 5x^3$

$\frac{10{,}000}{5} = \frac{5x^3}{5}$

$2000 = x^3$

$x = \sqrt[3]{2000}$

$x = 12.60$

5. $2^{30} + 2^{30} + 2^{30} + 2^{30} =$

A. 8^{120}

B. 8^{30}

C. 2^{32}

D. 2^{30}

E. 2^{26}