Bellwork Alg 2 Friday, March 20, 2020

This bellwork is review of problems from Chapter 6.

Solve each equation. Round to the nearest hundredth.

1. $9^x = 200$

2. $\log_4(2x - 1) = 3$

3. $5(7)^{x+6} + 1 = 53$

4. $8\ln x - 9 = 14$

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Answers

Solve each equation. Round to the nearest hundredth.

1. $9^x = 200$

$\log_9 200 = x$

$x = 2.41$

use change of base formula if you don't have a graphing calc.

$$x = \frac{\log 200}{\log 9} = 2.41$$

2. $\log_4(2x-1) = 3$

$4^3 = 2x-1$

$64 = 2x-1$

$+1 \quad +1$

$\frac{65}{2} = \frac{2x}{2}$

$x = 32.5$

3. $5(7)^{x+6} + 1 = 53$

$-1 \quad -1$

$\frac{5(7)^{x+6}}{5} = \frac{52}{5}$

$7^{x+6} = 10.4$

$\log_7 10.4 = x+6$

$-6 \quad -6$

$x = \log_7 10.4 - 6$

$x = -4.80$

or $x = \frac{\log 10.4}{\log 7} - 6$

4. $8\ln x - 9 = 14$

$+9 \quad +9$

$\frac{8\ln x}{8} = \frac{23}{8}$

$\ln x = 2.875$

$e^{2.875} = x$

$x = 17.73$