Name : _____ Score : _____

Teacher : _____ Date : _____

Logarithmic Equations

Solve each given equation.

1) $\log_4 p + \log_4 4 = \log_4 5$

2) $\log_8 (5k + 7) = \log_8 (2k + 3)$

3) $\log_8 s + \log_8 4 = 2$

4) $\log_5 (3d - 4) = \log_5 (5d + 4)$

5) $\log 2 + \log 5d^2 = \log 6$

6) $\log_6 (4h^2 + 256) = \log_6 (-64h)$

7) $\log 4r = \log (6r - 4)$

8) $\log_9 (4x^2 + 80) = \log_9 (36x)$

9) $\log_4 (5w^2 + 225) = \log_4 (70w)$

10) $\log_3 r + \log_3 5 = 2$

11) $\log_7 6 + \log_7 5z^2 = \log_7 7$

12) $\log_9 z + \log_9 7 = \log_9 5$

13) $\log_3 7s = \log_3 (4s - 4)$

14) $\log_2 d + \log_2 7 = 2$

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Logarithmic Equations

Solve each given equation.

1) $\log_4 p + \log_4 4 = \log_4 5$

$\frac{5}{4}$

2) $\log_8 (5k + 7) = \log_8 (2k + 3)$

$\frac{-4}{3}$

3) $\log_8 s + \log_8 4 = 2$

16

4) $\log_5 (3d - 4) = \log_5 (5d + 4)$

-4

5) $\log 2 + \log 5d^2 = \log 6$

$\pm \frac{\sqrt{3}}{\sqrt{5}}$

6) $\log_6 (4h^2 + 256) = \log_6 (-64h)$

{-8 , -8}

7) $\log 4r = \log (6r - 4)$

2

8) $\log_9 (4x^2 + 80) = \log_9 (36x)$

{5 , 4}

9) $\log_4 (5w^2 + 225) = \log_4 (70w)$

{5 , 9}

10) $\log_3 r + \log_3 5 = 2$

$\frac{9}{5}$

11) $\log_7 6 + \log_7 5z^2 = \log_7 7$

$\pm \frac{\sqrt{7}}{\sqrt{30}}$

12) $\log_9 z + \log_9 7 = \log_9 5$

$\frac{5}{7}$

13) $\log_3 7s = \log_3 (4s - 4)$

$\frac{-4}{3}$

14) $\log_2 d + \log_2 7 = 2$

$\frac{4}{7}$