Candle Center - Infinite Algebra 2 Name_____

Rewriting Logs in Terms of Others

Date_____ Period____

Use the properties of logarithms and the values below to find the logarithm indicated. Do not use a calculator to evaluate the logs.

1) $\log 12 \approx 1.1$
$\log 8 \approx 0.9$
$\log 7 \approx 0.8$
Find $\log \frac{7}{8}$

2) $\log 12 \approx 1.1$
$\log 8 \approx 0.9$
$\log 7 \approx 0.8$
Find $\log \frac{2}{3}$

3) $\log 12 \approx 1.1$
$\log 7 \approx 0.8$
$\log 8 \approx 0.9$
Find $\log 64$

4) $\log 8 \approx 0.9$
$\log 12 \approx 1.1$
$\log 7 \approx 0.8$
Find $\log 96$

5) $\log 7 \approx 0.8$
$\log 12 \approx 1.1$
$\log 8 \approx 0.9$
Find $\log \frac{1}{64}$

6) $\log 8 \approx 0.9$
$\log 7 \approx 0.8$
$\log 12 \approx 1.1$
Find $\log \frac{1}{7}$

7) $\log_3 10 \approx 2.1$
$\log_3 11 \approx 2.2$
$\log_3 8 \approx 1.9$
Find $\log_3 330$

8) $\log_8 12 \approx 1.2$
$\log_8 7 \approx 0.9$
$\log_8 9 \approx 1.1$
Find $\log_8 \frac{81}{7}$

9) $\log_5 11 \approx 1.5$
$\log_5 6 \approx 1.1$
$\log_5 4 \approx 0.9$
Find $\log_5 264$

10) $\log_9 8 \approx 0.9$
$\log_9 11 \approx 1.1$
$\log_9 6 \approx 0.8$
Find $\log_9 486$

11) $\log_6 10 \approx 1.3$
$\log_6 7 \approx 1.1$
$\log_6 8 \approx 1.2$
Find $\log_6 \frac{3}{50}$

12) $\log_6 8 \approx 1.2$
$\log_6 7 \approx 1.1$
$\log_6 10 \approx 1.3$
Find $\log_6 800$

13) $\log 6 = A$
$\log 9 = B$
$\log 4 = C$
Find $\log \frac{1}{16}$

14) $\log_4 7 = R$
$\log_4 6 = S$
$\log_4 9 = T$
Find $\log_4 24$

15) $\log_5 12 = R$
$\log_5 9 = S$
$\log_5 11 = T$
Find $\log_5 \frac{1}{12}$

16) $\log_9 7 = A$
$\log_9 4 = B$
$\log_9 10 = C$
Find $\log_9 \frac{1}{16}$

17) $\log_8 6 = A$
$\log_8 9 = B$
$\log_8 10 = C$
Find $\log_8 729$

18) $\log_7 6 = R$
$\log_7 8 = S$
$\log_7 10 = T$
Find $\log_7 392$

19) $\log_6 10 = X$
$\log_6 7 = Y$
$\log_6 4 = Z$
Find $\log_6 \frac{1}{9}$

20) $\log_8 6 = A$
$\log_8 9 = B$
$\log_8 7 = C$
Find $\log_8 729$

21) $\log_5 6 = P$
$\log_5 4 = Q$
$\log_5 9 = R$
Find $\log_5 \frac{1}{270}$

22) $\log_8 10 = P$
$\log_8 12 = Q$
$\log_8 11 = R$
Find $\log_8 \frac{5}{256}$

23) $\log_7 3 = X$
$\log_7 8 = Y$
$\log_7 10 = Z$
Find $\log_7 \frac{15}{32}$

24) $\log_8 12 = P$
$\log_8 5 = Q$
$\log_8 9 = R$
Find $\log_8 \frac{32}{27}$

Candle Center - Infinite Algebra 2 Name_____

Rewriting Logs in Terms of Others

Date_____ Period____

Use the properties of logarithms and the values below to find the logarithm indicated. Do not use a calculator to evaluate the logs.

1) $\log 12 \approx 1.1$
$\log 8 \approx 0.9$
$\log 7 \approx 0.8$
Find $\log \frac{7}{8}$

–0.1

2) $\log 12 \approx 1.1$
$\log 8 \approx 0.9$
$\log 7 \approx 0.8$
Find $\log \frac{2}{3}$

–0.2

3) $\log 12 \approx 1.1$
$\log 7 \approx 0.8$
$\log 8 \approx 0.9$
Find $\log 64$

1.8

4) $\log 8 \approx 0.9$
$\log 12 \approx 1.1$
$\log 7 \approx 0.8$
Find $\log 96$

2

5) $\log 7 \approx 0.8$
$\log 12 \approx 1.1$
$\log 8 \approx 0.9$
Find $\log \frac{1}{64}$

–1.8

6) $\log 8 \approx 0.9$
$\log 7 \approx 0.8$
$\log 12 \approx 1.1$
Find $\log \frac{1}{7}$

–0.8

7) $\log_3 10 \approx 2.1$
$\log_3 11 \approx 2.2$
$\log_3 8 \approx 1.9$
Find $\log_3 330$

5.3

8) $\log_8 12 \approx 1.2$
$\log_8 7 \approx 0.9$
$\log_8 9 \approx 1.1$
Find $\log_8 \frac{81}{7}$

1.3

9) $\log_5 11 \approx 1.5$
$\log_5 6 \approx 1.1$
$\log_5 4 \approx 0.9$
Find $\log_5 264$

3.5

10) $\log_9 8 \approx 0.9$
$\log_9 11 \approx 1.1$
$\log_9 6 \approx 0.8$
Find $\log_9 486$

2.8

11) $\log_6 10 \approx 1.3$
$\log_6 7 \approx 1.1$
$\log_6 8 \approx 1.2$
Find $\log_6 \frac{3}{50}$

–1.6

12) $\log_6 8 \approx 1.2$
$\log_6 7 \approx 1.1$
$\log_6 10 \approx 1.3$
Find $\log_6 800$

3.8

13) $\log 6 = A$ $-2C$
$\log 9 = B$
$\log 4 = C$
Find $\log \frac{1}{16}$

14) $\log_4 7 = R$ $S + 1$
$\log_4 6 = S$
$\log_4 9 = T$
Find $\log_4 24$

15) $\log_5 12 = R$
$\log_5 9 = S$
$\log_5 11 = T$
Find $\log_5 \frac{1}{12}$
$-R$

16) $\log_9 7 = A$
$\log_9 4 = B$
$\log_9 10 = C$
Find $\log_9 \frac{1}{16}$
$-2B$

17) $\log_8 6 = A$
$\log_8 9 = B$
$\log_8 10 = C$
Find $\log_8 729$
$3B$

18) $\log_7 6 = R$
$\log_7 8 = S$
$\log_7 10 = T$
Find $\log_7 392$
$S + 2$

19) $\log_6 10 = X$
$\log_6 7 = Y$
$\log_6 4 = Z$
Find $\log_6 \frac{1}{9}$
$Z - 2$

20) $\log_8 6 = A$
$\log_8 9 = B$
$\log_8 7 = C$
Find $\log_8 729$
$3B$

21) $\log_5 6 = P$
$\log_5 4 = Q$
$\log_5 9 = R$
Find $\log_5 \frac{1}{270}$
$-1 - P - R$

22) $\log_8 10 = P$
$\log_8 12 = Q$
$\log_8 11 = R$
Find $\log_8 \frac{5}{256}$
$P - 3$

23) $\log_7 3 = X$
$\log_7 8 = Y$
$\log_7 10 = Z$
Find $\log_7 \frac{15}{32}$
$Z + X - 2Y$

24) $\log_8 12 = P$
$\log_8 5 = Q$
$\log_8 9 = R$
Find $\log_8 \frac{32}{27}$
$P + 1 - 2R$