

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 $\log_6 800$

$$13) \log 6 = A$$

$$\log 9 = B$$

$$\log 4 = C$$

$$\text{Find } \log \frac{1}{16}$$

$$15) \log_5 12 = R$$

$$\log_5 9 = S$$

$$\log_5 11 = T$$

$$\text{Find } \log_5 \frac{1}{12}$$

$$17) \log_8 6 = A$$

$$\log_8 9 = B$$

$$\log_8 10 = C$$

$$\text{Find } \log_8 729$$

$$19) \log_6 10 = X$$

$$\log_6 7 = Y$$

$$\log_6 4 = Z$$

$$\text{Find } \log_6 \frac{1}{9}$$

$$21) \log_5 6 = P$$

$$\log_5 4 = Q$$

$$\log_5 9 = R$$

$$\text{Find } \log_5 \frac{1}{270}$$

$$23) \log_7 3 = X$$

$$\log_7 8 = Y$$

$$\log_7 10 = Z$$

$$\text{Find } \log_7 \frac{15}{32}$$

$$14) \log_4 7 = R$$

$$\log_4 6 = S$$

$$\log_4 9 = T$$

$$\text{Find } \log_4 24$$

$$16) \log_9 7 = A$$

$$\log_9 4 = B$$

$$\log_9 10 = C$$

$$\text{Find } \log_9 \frac{1}{16}$$

$$18) \log_7 6 = R$$

$$\log_7 8 = S$$

$$\log_7 10 = T$$

$$\text{Find } \log_7 392$$

$$20) \log_8 6 = A$$

$$\log_8 9 = B$$

$$\log_8 7 = C$$

$$\text{Find } \log_8 729$$

$$22) \log_8 10 = P$$

$$\log_8 12 = Q$$

$$\log_8 11 = R$$

$$\text{Find } \log_8 \frac{5}{256}$$

$$24) \log_8 12 = P$$

$$\log_8 5 = Q$$

$$\log_8 9 = R$$

$$\text{Find } \log_8 \frac{32}{27}$$

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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 $\log \frac{1}{16}$

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

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

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

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

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

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

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

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

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

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

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