

LOGS 2

Use the properties of logarithms and the logarithms provided to rewrite each logarithm in terms of the variables given.

1) $\log_5 6 = X$

$\log_5 4 = Y$

$\log_5 7 = Z$

Find $\log_5 \frac{6}{245}$

2) $\log_7 8 = A$

$\log_7 10 = B$

$\log_7 12 = C$

Find $\log_7 \frac{49}{80}$

3) $\log_5 4 = U$

$\log_5 6 = V$

$\log_5 11 = W$

Find $\log_5 \frac{8}{33}$

4) $\log_6 8 = P$

$\log_6 10 = Q$

$\log_6 7 = R$

Find $\log_6 5120$

5) $\log_9 10 = X$

$\log_9 7 = Y$

$\log_9 4 = Z$

Find $\log_9 \frac{1}{225}$

6) $\log_3 7 = A$

$\log_3 10 = B$

$\log_3 4 = C$

Find $\log_3 \frac{5}{56}$

7) $\log_9 7 = X$

$\log_9 8 = Y$

$\log_9 12 = Z$

Find $\log_9 \frac{1}{2}$

8) $\log 9 = R$

$\log 12 = S$

$\log 8 = T$

Find $\log \frac{250}{3}$

9) $\log_8 9 = R$

$\log_8 7 = S$

$\log_8 12 = T$

Find $\log_8 \frac{16}{27}$

10) $\log_8 9 = P$

$\log_8 7 = Q$

$\log_8 6 = R$

Find $\log_8 \frac{81}{49}$

$$11) \log_6 10 = A$$

$$\log_6 8 = B$$

$$\log_6 11 = C$$

$$\text{Find } \log_6 \frac{4}{363}$$

$$12) \log_5 9 = X$$

$$\log_5 4 = Y$$

$$\log_5 6 = Z$$

$$\text{Find } \log_5 2916$$

$$13) \log_7 6 = R$$

$$\log_7 8 = S$$

$$\log_7 5 = T$$

$$\text{Find } \log_7 \frac{10}{9}$$

$$14) \log_8 12 = R$$

$$\log_8 5 = S$$

$$\log_8 9 = T$$

$$\text{Find } \log_8 \frac{16}{15}$$

$$15) \log_9 10 = A$$

$$\log_9 6 = B$$

$$\log_9 7 = C$$

$$\text{Find } \log_9 \frac{49}{60}$$

$$16) \log_7 4 = A$$

$$\log_7 9 = B$$

$$\log_7 6 = C$$

$$\text{Find } \log_7 \frac{21}{8}$$

$$17) \log_3 11 = U$$

$$\log_3 8 = V$$

$$\log_3 10 = W$$

$$\text{Find } \log_3 \frac{1}{72}$$

$$18) \log_3 10 = A$$

$$\log_3 11 = B$$

$$\log_3 4 = C$$

$$\text{Find } \log_3 \frac{4}{99}$$

$$19) \log_5 6 = U$$

$$\log_5 4 = V$$

$$\log_5 11 = W$$

$$\text{Find } \log_5 \frac{20}{121}$$

$$20) \log_4 6 = X$$

$$\log_4 10 = Y$$

$$\log_4 11 = Z$$

$$\text{Find } \log_4 \frac{10}{1331}$$

Answers to LOGS 2

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|------------------|-----------------|------------------|------------------|
| 1) $X - 1 - 2Z$ | 2) $2 - A - B$ | 3) $2U - V - W$ | 4) $Q + 3P$ |
| 5) $Z - 1 - 2X$ | 6) $B - A - 2C$ | 7) $1 + Y - 2Z$ | 8) $3 - S$ |
| 9) $2 - T - R$ | 10) $2P - 2Q$ | 11) $B - 1 - 2C$ | 12) $2X + 2Z$ |
| 13) $S + T - 2R$ | 14) $2 - R - S$ | 15) $2C - B - A$ | 16) $1 + C - 2A$ |
| 17) $-2 - V$ | 18) $C - B - 2$ | 19) $V + 1 - 2W$ | 20) $Y - 3Z$ |