PRINTABLE VERSION

Quiz 22

Question 1

Rewrite the following expression by using the laws of logarithms

$$log_2\left(\frac{8RU}{Q}\right)$$

a) $log_2(8)+log_2(R)+log_2(U)+log_2(Q)$

b) $log_2(8)+log_2(R)-log_2(U)-log_2(Q)$

c) $log_2(8)+log_2(R)+log_2(U)-log_2(Q)$

d) $log_2(8)+log_2(R)+log_2(U)$

e) $log_2(8)-log_2(R)-log_2(U)+log_2(Q)$

f) None of the above

Question 2

Rewrite the following expression by using the laws of logarithms:

$$ln\left(e^x W^6\right)$$

a) $x+6+ln(W)$

b) $x+Wln(6)$

c) $x+6ln(W)$

d) $e+6ln(W)$

e) $x-6ln(W)$

f) None of the above

Question 3

Rewrite the following expression by using the laws of logarithms:

$$log\left(\frac{x^8(x^2-5)^2}{\sqrt{y-5}z^8}\right)$$

a) $8log(x) + 2log(x^2 + -5) - \frac{1}{2}log(y - 5) - 8log(z)$

b) $2log(x) + 8log(x^2 + -5) - \frac{1}{2}log(y - 5) - 8log(z)$

c) $8log(x) - 2log(x^2 + -5) - \frac{1}{2}log(y - 5) - 8log(z)$

d) $8log(x) - 2log(x^2 - -5) + \frac{1}{2}log(y + 5) + 8log(z)$

e) $8log(x) + 2log(x^2 + -5) + \frac{1}{2}log(y - 5) + 8log(z)$

f) None of the above

Question 4

Rewrite the following expression as a single logarithm:

$$log_3(Q^{10}) + log_3(Q^6) - log_3(Q^8)$$

a) $log_3\left(Q^{24}\right)$

b) $log_3\left(Q^{-4}\right)$

c) $log_3\left(Q^{8}\right)$

d) $log_3\left(Q^{-12}\right)$

e) $log_3\left(Q^{12}\right)$

f) None of the above

Question 5

Rewrite the following expression as a single logarithm:

$$ln(x^2 - 13\,x + 36) - ln(x - 9)$$

a) $ln(x + 4)$

b) $ln(x + 9)$

c) $ln(-x - 4)$

d) $ln(x - 4)$

e) $ln(x - 9)$

f) None of the above

Question 6

Rewrite the following expression as a single logarithm:

$$4log(V) + 9log(P) - \frac{1}{3}log(R) - 2log(Z)$$

a) $log\left(\frac{9\,V^4P}{R^3Z^2}\right)$

b) $log\left(\frac{4\,V^9P}{\sqrt[3]{R}Z^2}\right)$

c) $log\left(\frac{V^4P^9}{\sqrt[3]{R}+Z^2}\right)$

d) $log\left(\frac{P^4V^9}{\sqrt[3]{R}Z^2}\right)$

e) $log\left(\frac{V^4P^9}{\sqrt[3]{R}Z^2}\right)$

f) None of the above

Question 7

Evaluate the following expression

$$log_2\left(16^8\right)$$

a) 12

b) 16

c) 8

d) 32

e) 6

f) None of the above

Question 8

Evaluate the following expression

$$log_{32}\left(16\right)$$

a) $\frac{2}{5}$

b) $\frac{5}{4}$

c) $-\frac{4}{5}$

d) $\frac{5}{2}$

e) $\frac{4}{5}$

f) None of the above

Question 9

Simplify the following expression:

$$log_3(54) - log_3(6)$$

a) -2

b) 3

c) 4

d) 2

e) -4

f) None of the above

Question 10

Use the change of base formula to write the following in terms of natural logarithms:

$$log_3(7)$$

a) $\frac{log7}{log3}$

b) $log7 + log3$

c) $\frac{1}{log3}$

d) $\frac{log3}{log7}$

e) $log7 - log3$

f) None of the above