

Solve the equation by expressing each side as a power of the same base and then equating exponents.

1) $2^{(1+2x)} = 32$

A) {2}

B) {-2}

C) {16}

D) {4}

1) _____

2) $e^x + 9 = \frac{1}{e^3}$

A) {6}

B) {-6}

C) {-12}

D) {12}

2) _____

Solve the exponential equation. Express the solution set in terms of natural logarithms.

3) $4^x + 4 = 5^{2x} + 5$

Solve the exponential equation. Use a calculator to obtain a decimal approximation, correct to two decimal places, for the solution.

4) $10^x = 4.04$

A) 1.4

B) 40.4

C) 10,964.78

D) 0.61

4) _____

5) $5e^x = 23$

A) 1.53

B) -1.53

C) -0.66

D) 0.66

5) _____

Solve the logarithmic equation. Be sure to reject any value that is not in the domain of the original logarithmic expressions. Give the exact answer.

6) $\log_6 (x + 3) = 3$

A) {213}

B) {732}

C) {726}

D) {219}

6) _____

7) $\log_8 7 + \log_8 x = 1$

A) $\{\frac{1}{7}\}$

B) $\{\frac{7}{8}\}$

C) $\{\sqrt[7]{8}\}$

D) $\{\frac{8}{7}\}$

7) _____

8) $\log_3 (x^2 - 2x) = 1$

A) {1}

B) {3, -1}

C) {3}

D) {-3, 1}

8) _____

9) $\log_3 (x + 2) - \log_3 x = 2$

A) {4}

B) $\{\frac{2}{9}\}$

C) {3}

D) $\{\frac{1}{4}\}$

9) _____

10) $\ln 4 + \ln (x - 1) = 0$

A) {1}

B) $\{\frac{1}{4}\}$

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

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

10) _____

11) $\log 3x = \log 5 + \log (x - 2)$

A) {-5}

B) $\{\frac{3}{2}\}$

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

D) {5}

11) _____

Answer Key

Testname: PRACTICE16

1) A

2) C

3) $\left\{ \frac{5 \ln 5 - 4 \ln 4}{\ln 4 - 2 \ln 5} \right\}$

4) D

5) A

6) A

7) D

8) B

9) D

10) C

11) D