

Part 1

Final Skill Review

EXLOG11.tex

Exercise 1 How many solutions does the following equation have?

$$x^3 = -27$$

Multiple Choice:

- (a) Exactly 1 ✓
 - (b) 2
 - (c) More than 2
 - (d) None
-

EXLOG12.tex

Exercise 2 How many solutions does the following equation have?

$$x^2 = 64$$

Multiple Choice:

- (a) Exactly 1
 - (b) 2 ✓
 - (c) More than 2
 - (d) None
-

EXLOG13.tex

Exercise 3 How many solutions does the following equation have?

$$\log_2 2^x = x$$

Multiple Choice:

- (a) Exactly 1
- (b) 2

- (c) *All Real Numbers* ✓
 - (d) *All Non-Negative Real Numbers*
 - (e) *None*
-

EXLOG14.tex

Exercise 4 *How many solutions does the following equation have?*

$$e^{\ln x} = x$$

Multiple Choice:

- (a) *Exactly 1*
 - (b) *2*
 - (c) *All Real Numbers*
 - (d) *All Non-Negative Real Numbers* ✓
 - (e) *None*
-

EXLOG15.tex

Exercise 5 *How many solutions does the following equation have?*

$$e^x = -7$$

Multiple Choice:

- (a) *Exactly 1*
 - (b) *2*
 - (c) *All Real Numbers*
 - (d) *All Non-Negative Real Numbers*
 - (e) *None* ✓
-

EXLOG16.tex

Exercise 6 How many solutions does the following equation have?

$$x^2 = -4$$

Multiple Choice:

- (a) Exactly 1
 - (b) 2
 - (c) All Real Numbers
 - (d) All Non-Negative Real Numbers
 - (e) None ✓
-

EXLOG17.tex

Exercise 7 How many solutions does the following equation have?

$$10^x = 100$$

Multiple Choice:

- (a) Exactly 1 ✓
 - (b) 2
 - (c) All Real Numbers
 - (d) All Non-Negative Real Numbers
 - (e) None
-

EXLOG18.tex

Exercise 8 How many solutions does the following equation have?

$$(\sqrt{x})^2 = x$$

Multiple Choice:

- (a) *Exactly 1*
- (b) *2*
- (c) *All Real Numbers*
- (d) *All Non-Negative Real Numbers* ✓
- (e) *None*

EQUAL11.tex

Exercise 9 Solve for x .

$$e^{2x} - 6e^x + 9 = 0$$

$$x = \boxed{\ln 3}$$

EQUAL12.tex

Exercise 10 Solve for x .

$$x - 7\sqrt{x} + 10 = 0$$

$$\text{Smaller Value of } x \text{ } x = \boxed{4}$$

$$\text{Larger Value of } x \text{ } x = \boxed{25}$$

EQUAL13.tex

Exercise 11 Solve for x .

$$e^{2x-7} = e^{\frac{3}{4}}$$

$$x = \boxed{\frac{31}{8}}$$

EQUAL14.tex

Exercise 12 Solve for x .

$$\log_b \sqrt{x-3} = \log_b 9$$

$$x = \boxed{84}$$

EQUAL15.tex

Exercise 13 Fill in the missing parts of the equation.

$$(a + b)^x = e^{\ln \boxed{a + b}^x}$$

EQUAL16.tex

Exercise 14 Fill in the missing parts of the equation.

$$x = \log_{\boxed{7}} 7^x$$

EQUAL17.tex

Exercise 15 Solve for x .

$$e^{2x} = 3$$
$$x = \boxed{\frac{\ln 3}{2}}$$
