

F.LE.A.4: Exponential Equations 5

- 1 If $7^x = 3$, then x is equal to
 - 1) $(\log 3)(\log 7)$
 - 2) $\log 3 - \log 7$
 - 3) $\frac{\log 3}{\log 7}$
 - 4) $\frac{\log 7}{\log 3}$
- 2 Using logarithms, find x , to the *nearest hundredth*:
 $2^x = 5$
- 3 Solve for x to the *nearest hundredth*. $2^x = 28$
- 4 Solve for x to the *nearest hundredth*: $2^x = \frac{3}{16}$
- 5 Using logarithms, solve the equation $2^{3x} = 7$ for x to the *nearest tenth*.
- 6 Find x to the *nearest hundredth*: $3^x = 6$
- 7 What is the value of x in the equation $3^x = 148$, expressed to the *nearest hundredth*?
- 8 Using logarithms, solve the equation $3^{2x} = 4$ for x to the *nearest tenth*.
- 9 Using logarithms, find x to the *nearest tenth*:
 $3^{2x} = 5$
- 10 Using logarithms, find x to the *nearest tenth*:
 $3^{2x} = 100$
- 11 Using logarithms, solve the equation $5^x = 17$ for x to the *nearest tenth*.
- 12 Solve for x to the *nearest tenth*: $5^{3x} = 1,000$
- 13 Solve for x to the *nearest tenth*. $5^x = 30$
- 14 Solve for x to the *nearest hundredth*: $6^x = 45$
- 15 Using logarithms, find w to the *nearest hundredth*:
 $5^{2w} + 9 = 40$
- 16 Using logarithms, solve the equation $(1.95)^x = 54$ for x to the *nearest integer*.
- 17 Given: $y = 4.1^x$
Find x , to the *nearest tenth*, when $y = 26$.
- 18 Using logarithms, solve for x to the *nearest hundredth*: $5^x = 1,325$
- 19 Solve $e^{4x} = 12$ algebraically for x , rounded to the *nearest hundredth*.

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Answer Section

1 ANS: 3

$$7^x = 3$$

$$\log 7^x = \log 3$$

$$x \log 7 = \log 3$$

$$x = \frac{\log 3}{\log 7}$$

REF: 061009b

2 ANS:

2.32

REF: 069542siii

3 ANS:

4.81

REF: 010141siii

4 ANS:

-2.42

REF: 089839siii

5 ANS:

0.9

REF: 068636siii

6 ANS:

1.63

REF: 019939siii

7 ANS:

4.55

REF: 060109siii

8 ANS:

0.6

REF: 068038siii

9 ANS:

0.7

REF: 089438siii

10 ANS:

2.1

REF: 089542siii

11 ANS:
1.8

REF: 088536siii

12 ANS:
1.4

REF: 069641siii

13 ANS:
2.1

REF: 019737siii

14 ANS:
2.12

REF: 089739siii

15 ANS:
1.07

REF: 010041siii

16 ANS:
6

REF: 088437siii

17 ANS:
2.3

REF: 010240siii

18 ANS:
4.47

REF: 080339siii

19 ANS:
 $\ln e^{4x} = \ln 12$
 $4x = \ln 12$
 $x = \frac{\ln 12}{4}$
 ≈ 0.62

REF: 011530a2