

Practice (Pg 89)

Solve

1. $27^x = 9^{2x-4}$
2. $4^{2x-1} = 64$
3. $6^{2x-6} = 1$
4. $2^{-x} = 128$
5. $5^{4-x} = \frac{1}{5}$
6. $32^{3x-2} = 64$
7. $2^{-2x} = 32$
8. $4^{8x} = \frac{1}{16}$
9. $3^{2x-1} + 1 = 2$
10. $3(5^{x+1}) = 15$

Solve.

11. $\frac{27^x}{9^{2x-1}} = 3^{x+4}$
12. $27^x(9^{2x-1}) = 3^{x+4}$
13. $\sqrt[3]{256} \div \sqrt[6]{64} = 2^x$
14. $\frac{(9^{2x-1})^3(3^{3x})^2}{(27^{x+2})^4} = 81^3$
15. $8(2x-1)^3 = 125$
16. $8^{\frac{1}{4}} \times \left(\frac{1}{4}\right)^{\frac{x}{2}} = 16^{\frac{3}{4}}$

Practice (Pg 113)

Find the value of x . Round to the nearest hundredth.

1. $3^x = 125$
2. $10^{x-4} = 7$
3. $4^{2x} = 15$
4. $9^{2x+3} = 568$
5. $(0.7)^{3x} = 2.08$
6. $2^{-x} = 6$
7. $8^{\frac{x}{3}} = 20$
8. $2^{x^2} = 10$

Solve for x . Round to the nearest hundredth.

9. $2^{x+1} = 17^x$
10. $17^{x+4} = 196^{3x-2}$
11. $21^{2x+5} = 278^{3x-7}$
12. $0.63^{x-4} = 5^{2x}$
13. $7 \times 2^x = 5^{x-2}$
14. $485 \times 5^{x+2} = 12^{2x-1}$

Section 2.7 pp. 113-115
 Practice 1. 4.39 2. 4.85 3. 0.98 4. -0.06 5. -0.68
 6. -2.58 7. -4.32 8. ±1.82 9. 0.972 10. 1.684
 11. 5.060 12. 0.502 13. 5.637 14. 3.538 Estimates
 may vary for 15.-20. 15. 4; 4.08 16. 3.1; 3.25
 17. 4.25; 4.30 18. 3.1; 3.08 19. 2.25; 2.19 20. 3.1;

Section 2.4 pp. 89-90
 Practice 1. 2 2. 2 3. 2 4. -7 5. 5 6. $\frac{15}{16}$ 7. $-\frac{7}{5}$
 8. $-\frac{1}{4}$ 9. $\frac{1}{2}$ 10. 0 11. -1 12. 1 13. $\frac{5}{3}$ 14. 7 15. $\frac{4}{7}$
 16. $-\frac{9}{4}$ 17. 50 years 18. 75 years 19. 125 years