

Solve:

1. $125^{5x+3} = 25$

2. $9^{7x+9} = 27$

3. Solve for x to the nearest hundredth: $3.34^x = 27$ [A] 1.43 [B] 2.73 [C] 0.52 [D] 0.37

4. Solve for x to the nearest hundredth: $3.06^x = 39$ [A] 3.28 [B] 0.49 [C] 1.59 [D] 0.31

5. Find the amount accumulated on \$500 invested at 8.5% for 3 years compounded semi-annually.

[A] \$815.73 [B] \$638.64 [C] \$641.84 [D] \$12,750

6. Find the amount accumulated on \$900 invested at 6.5% for 4 years compounded quarterly.

[A] \$23,400 [B] \$1157.82 [C] \$1164.80 [D] \$2465.11

7. The function $y = 400(1.03)^x$ models the kindergarten population y of an elementary school x years after the year 2000. Graph the function on your graphing calculator. Estimate when the kindergarten population will reach 500.
8. A forest is losing trees at the rate of 15% per year. After how many years will the forest be reduced to 25% of its current size?
9. Use any problem solving strategy to solve the following problem. Randy has \$1,000 he wants to invest and has a choice between two accounts. He can invest in an account paying 5.2% interest, compounded semi-annually, for 2 years or an account paying 5.2% compounded annually for 3 years. Which account will earn Randy more money?
10. A bank displayed this sign:

	Special investments	
Minimum Deposit	Compounded	Annual Rate
\$2000	quarterly	5%
\$5000	monthly	6%
\$10,000	semi - annually	8%

Jeff has \$10,000 to invest for 3 years. Compare the worth of his investment if he chose the 6% compounded monthly account with the amount he would have if he deposited the money in the 8% compounded semi-annually account.

Algebra II Practice A.CED.A.1: Exponential Equations

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[1] $-\frac{7}{15}$

[2] $-\frac{15}{14}$

[3] B

[4] A

[5] C

[6] C

[7] in about $7\frac{1}{2}$ years after the year 2000

[8] After $8\frac{1}{2}$ years the forest will be 25% of what it is now.

[9] He should choose the account paying 5.2% compounded annually for 3 years.

[10] 6% account: \$11,966.81; 8% account: \$12,653.19; 8% account yields about \$686.38 more.
