**Solve the equation.**

1. 7x+6 = 73x-4 2. $3^{2x+3}$= $3^{(x^{2})}$ 3. 2-100x = (0.5)x-4 4. 4x-3 = 84-x

5. $4^{x}∙(\frac{1}{2})^{3-2x}=8 ∙(2^{x})^{2}$ 6. $8^{2x}∙(\frac{1}{4})^{x-2}=4^{-x} ∙(\frac{1}{2})^{2-x}$ 7. 23x-1 = $\frac{1}{2}$

**Sketch the graph of f.**

8. f(x) = $(\frac{2}{5})^{-x}$ 9. f(x) = $5(\frac{1}{2})^{x}+3$ 10. f(x) = $-(\frac{1}{2})^{x}+4$

  

11. One hundred elk, each 1 year old, are introduced into a game preserve. The number N(t) alive after t years is predicted to be N(t) = 100(0.9)t. Estimate the number alive after

(a) 1 year (b) 5 years (c) 10 years

12. A drug is eliminated from the body through urine. Suppose that for an initial dose of 10 milligrams, the amount A(t) in the body t hours later is given by A(t) = 10(0.8)t.

(a) Estimate the amount of the drug in the body 8 hours after the initial dose.

(b) What percentage of the drug still in the body is eliminated each hour?

13. If a savings fund pays interest at a rate of 10% per year compounded semiannually, how much money invested now will amount to $5000 after 1 year?

14. If a certain make of automobile is purchased for C dollars, its trade-in value V(t) at the end of t years is given by V(t) = 0.78C(0.85)t-1. If the original cost is $10,000, calculate, to the nearest dollar, the value after

(a) 1 year (b) 4 years (c) 7 years