MATH 160 Session #13

Solve each of the following equations.

1. $7x - 24 = 18 - 14x$

2. $30x - 96 = 3x^2$

3. $2000 = xe^{0.06(10)}$

4. $2000 = 1000e^{10x}$

In each case find x such that f(x) is maximized, and also specify the maximum value.

5. For $0 \leq x \leq 100$, $f(x) = 7x - 100$

6. For $0 \leq x \leq 100$, $f(x) = 3x^3 - 30x + 96$

In each case, what can we say about the value of f(x) if x is very close to zero, but not zero?

7. $f(x) = 7x - 100$

8. $f(x) = \frac{2}{x}$

9. $f(x) = 1000e^x$

In each case, what can we say about the value of f(x) if x is a very large positive number?

10. $f(x) = \frac{2}{x}$

11. $f(x) = (6x + 3)/(3x)$

12. $f(x) = 1000e^x$

In each case, what can we say about the value of f(x) if x is a negative number very far from zero?

10. $f(x) = \frac{2}{x}$

11. $f(x) = (6x + 3)/(3x)$

12. $f(x) = 1000e^x$