1. $f(1.5) \cdot f(2) < 0$ and f is continuous on $[1.5, 2]$ so IVT applies.

2. $6.08 \le f(2.2) \le 6.1$.

3. Increases on $(-1, 1)$, max $= \frac{1}{2}$, min $= -\frac{1}{2}$.

4. Find the maximum and minimum values of $f(x) = 2x^3 - 3x^2 - 12x + 8$ on each of the following intervals,

   (a) $[-2.5, 4]$ max 40, min -12

   (b) $[-2, 3]$ max 15, min -12

5. $T_2(x) = 1 + x + x^2$ and $T_3(x) = 1 + x + x^2 + x^3$

6. $\sin(3x) = (3x) - \frac{(3x)^3}{3!} + \frac{(3x)^5}{5!} + \dots$

7. $|\sin x - T_3(x)| \le \frac{x^5}{5!}$.

8. $c = 1$

9. $P(3) = 3(3(3(3 + 1) - 13) - 1) - 12$

10. Find the relative and approximate error when w is used to approximate v.

    1. $v = 2.71828182, w = 2.7182$ relative ≈ 0.0000301 and absolute ≈ 0.00008182.

    2. $v = 98350, w = 98000$

    3. $v = .0000068, w = .000006$