1. Page 93, Ex 2.4, Pr. 18.
   
   a. \( \lim_{x \to 1^+} \frac{\sqrt{2x(x-1)}}{1x - 11} \)  
   
   b. \( \lim_{x \to 1^-} \frac{\sqrt{2x(x-1)}}{1x - 11} \)

2. Page 93, Ex 2.4, Pr. 44.
   
   If you know that \( \lim_{x \to c} f(x) \) exists, can you find its value by calculating \( \lim_{x \to c^+} f(x) \) ?

3. Page 93, Ex 24, Pr. 52.
   
   \( f(x) = \begin{cases} 
   x^2 \sin(1/x), & x < 0 \\
   \sqrt{x} & , x > 0.
   \end{cases} \)

   Find \( \lim_{x \to 0^+} f(x) \) and \( \lim_{x \to 0^-} f(x) \); use definition of limit to verify your answer. Can you say anything about \( \lim_{x \to 0} f(x) \)?

4. Page 102, Ex 25, Pr. 6.
   
   \( f(x) = \begin{cases} 
   x^2 - 1, & -1 \leq x < 0 \\
   2x, & 0 < x < 1 \\
   1 & , x = 1 \\
   -2x + 4 & , 1 < x < 2 \\
   0 & , 2 \leq x < 3.
   \end{cases} \)

   a. Does \( f(1) \) exist?  
   b. Does \( \lim_{x \to 1^-} f(x) \) exist?  
   c. Does \( f(1) = \lim_{x \to 1} f(x) \)?  
   d. Is \( f(x) \) continuous at \( x = 1 \)?
5. **Page 102, Ex 2.5 Pr 14.**
   At which point(s) is \( f(x) = \frac{1}{(x+2)^2} + 4 \) Continuous?

6. **Page 102, Ex 2.5 Pr 20.**
   At which point(s) is \( f(x) = \frac{x+2}{\cos x} \) Continuous?

7. **Page 103, Ex 2.5 Pr 40.**
   Define \( h(2) \) in a way that extends \( h(t) = (t^2 + 3t - 10)/(t-2) \) to be continuous at \( t = 2 \).

8. **Page 103, Ex 2.5 Pr 44.**
   For what value of \( b \) is \( g(x) = \begin{cases} x & x < -2 \\ bx^2 & x \geq -2 \end{cases} \) continuous at every \( x \)?

9. **Page 103, Ex 2.5 Pr 56.**
   Show that the function \( F(x) = (x-a)^2 \cdot (x-b)^2 + x \) takes on the value \( (a+b)/2 \) for some value of \( x \).

10. **Page 104, Ex 2.5 Pr 68.**
    Let \( f \) be defined on an interval \((c, b)\) and suppose \( f(c) \neq 0 \) at some \( c \) where \( f \) is continuous. Show that there is an interval \((c-\delta, c+\delta)\), where \( f \) has the same sign as \( f(c) \).