Limits-Worksheet 2

Evaluate each of the following limits.

1. $\lim_{x\to 0}(x^2-5x+7)$

2. $\lim_{x\to 2}(x^2-5x+7)$

3. $\lim_{x\to 1}\sqrt{10-x}$

4. $\lim_{x\to 0}\left(\frac{x^2-2}{x^2-4}\right), x\neq\pm 2$

5. $\lim_{x\to 3}\frac{x}{\sqrt{1+x}}, x\succ -1$

6. $\lim_{x\to -1}\left(\frac{x}{x-3}\right), x\neq 3$

7. The function y= $\frac{x^2+5x}{x}$ is not defined when x=0. Why?
   Find the limit of y as $x\to 0$

8. The function y= $\frac{x^2-1}{x-1}$ is not defined for x=1. Why?
   Find the limit of the quotient as $x\to 1$

9. The function y= $\frac{3x-3}{x^2-1}$ is not defined for x=1. Why?
   Find the limit of y as $x\to 1$

10. Find each of the following limits:

    a. $\lim_{x\to 0}\left(\frac{x^2+2x}{x^2-2x}\right)$

    b. $\lim_{x\to 3}\left(\frac{x^2-9}{x-3}\right)$

    c. $\lim_{x\to 2}\left(\frac{x^3+8}{x+2}\right)$