Calculus AB: Classwork on 1.2 – 1.5

Name: _____ Date:_____ Pd:_____

Find the vertical Asymptote(s).

1. $f(x)=\dfrac{x+1}{x^2-3x+2}$

2. $f(x)=\dfrac{2x^2-2x}{x^2+4x-5}$

3. $f(x)=\begin{cases} x+3; & x\geq 0 \\ -3; & x<0 \end{cases}$

Is this function continuous at x = 0? Justify your answer.

4. Find the x-values (if any) at which f is discontinuous. Label as removable or non-removable.

$f(x)=\dfrac{2x+6}{2x^2-18}$

Find the limit. If the one-sided limit does not exist, be more specific than DNE.

5. $\lim\limits_{x\to -2}\dfrac{x^2+2x}{x+2}=$

6. $\lim\limits_{x\to -2^-}\dfrac{x}{x+2}$

7. $\lim\limits_{x\to 2^-}\dfrac{x-2}{|x-2|}$

8. $\lim\limits_{x\to 0}\dfrac{x-x\cos x}{x^2}$

9. $\lim\limits_{x\to \frac{5\pi}{6}}\tan x$

Find the value of a that makes the following function continuous at x = 2.

10. $f(x)=\begin{cases} x^2-5x+3; & x\leq 2 \\ ax+1; & x>2 \end{cases}$