Precal Unit 1 Topic 2 VD

Find the implied domain for f(x) and evaluate f(x) at given x.

$f(x)=\dfrac{4}{x^2-x}$	(1) $(-\infty,0)\cup(0,1)\cup(1,\infty)$ (2) x=1 is out of domain, and therefore $f(1)$ does not exist. (3) $f(-1)=2$
$f(x)=\dfrac{x}{x-2}$	(1) $(-\infty,2)\cup(2,\infty)$ (2) $f(3)=3$ (3) $f(0)=0$
$f(x)=\dfrac{x}{\sqrt{x^2-x-6}}$	(1) $(-\infty,-2)\cup(3,\infty)$ (2) x=3 is out of domain, and therefore $f(3)$ does exist (3) $f(-4)=-\dfrac{2}{7}\sqrt{14}$
$f(x)=\sqrt{x(x^2-4)}$	(1) $[-2,0]\cup[2,\infty)$ (2) x=1 is out of domain and therefore $f(1)$ does not exist. (3) $f(-1)=\sqrt{3}$
$f(x)=\dfrac{-3x+1}{\sqrt{2-3x}}$	(1) $(-\infty,\dfrac{2}{3})$ (2) x=1 is out of domain and therefore $f(1)$ does not exist. (3) $f(-3)=\dfrac{10}{11}\sqrt{11}$
$f(x)=\dfrac{1}{x+1}+\dfrac{1}{x-2}$	(1) $(-\infty,-1)\cup(-1,2)\cup(2,\infty)$ (2) x=2 is out of domain and therefore $f(2)$ does not exist. (3) $f(0)=\dfrac{1}{2}$
$f(x)=2-\dfrac{1}{\sqrt{x+4}}$	(1) $(-4,\infty)$ (2) x=-5 is out of domain and therefore $f(-5)$ does not exist. (3) $f(2)=2-\dfrac{\sqrt{6}}{6}$
$f(x)=\sqrt{-2x^2+9x-9}$	(1) $[\dfrac{3}{2},3]$ (2) x=-1 is out of domain and therefore $f(-1)$ does not exist. (2) $x=\dfrac{1}{2}$ is out of domain and therefore $f(\dfrac{1}{2})$ does not exist.