3.1 CORRECTIVE ASSIGNMENT

Name: _____

Pre-Calculus

For 1-5, **find** and **classify** each discontinuity.

1. $f(x) = \dfrac{x}{x+5}$

2. $g(x) = \sqrt{15+5x}$

3. $h(x) = \dfrac{x+7}{x^2-4x-77}$

4. $h(t) = \dfrac{2t^2+2t}{t^3-11t^2+24t}$

5. $f(x) = \dfrac{1}{x^2+9}$

For 6 – 11, identify the domain of each function. (use inequality notation)

6. $w(x) = \dfrac{\sqrt{5x-5}}{5}$

7. $s(t) = \dfrac{3}{\sqrt{3t-10}}$

8. $f(x) = \dfrac{x}{x\sqrt{56-4x}}$

9. $g(x) = x^2+4x-5$

10. $g(w) = \dfrac{2}{2-\sqrt{w}}$

11. $v(t) = \dfrac{3t}{t\sqrt{9t-3}}$

For 12 – 14, identify the domain of each function AND classify each discontinuity.

12. $w(x) = \dfrac{10x + 30}{10}$

13. $f(x) = \dfrac{2x + 1}{4x^2 - 1}$

14. $g(x) = \dfrac{\sqrt{2 - x}}{x - 4}$

ANSWERS to 3.1 Corrective Assignment

1. Vertical Asymptote at $x = -5$	2. Continuous on its domain	3. Hole at $x = -7$ Vertical Asymptote at $x = 11$
4. Vertical Asymptotes at $t = 3$ and 8. Hole at $t = 0$	5. Continuous on its domain.	
6. Domain: $x \geq 1$	7. Domain: $t > \frac{10}{3}$	8. Domain: $x < 14$.
9. Domain: $\mathbb{R}$	10. Domain: $w \geq 0,\ w \neq 4$	11. Domain: $t > \frac{1}{3}$ Continuous on its domain
12. Domain: $\mathbb{R}$ Continuous on its domain	13. Domain: $\mathbb{R}$ but $x \neq -\frac{1}{2}, x \neq \frac{1}{2}$. Hole at $x = -\frac{1}{2}$. Vertical Asymptote at $x = \frac{1}{2}$	14. Domain: $x \leq 2$ Continuous on its domain