Name:_____   Date:_____ Period:_____

Continuity Worksheet   Calculus Honors

Continuity Worksheet

Determine if the function is continuous. If the function is not continuous, state the discontinuity. Find the ***point of discontinuity*** if there is one.

1.) $f(x) = \frac{x^3+1}{x^2-3x-4}$

2.) $h(x) = \frac{x^2-9}{x^2-5x+6}$

3.) $y = \frac{2x-4}{x-2}$

4.) $g(x) = \frac{x^3+64}{x^2-16}$

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

6.) $y = \dfrac{x-1}{x^2-x}$

7.) $g(x) = \dfrac{2x+1}{4x^2+2x}$

8.) $h(x) = \dfrac{3-x}{x^2-9}$

Answer Key:

1.) Removable: x = -1; point of discontinuity: (-1, -3/5); non-removable: x = -4

2.) Removable: x = 3; point of discontinuity: (3,6); non-removable: x = 2

3.) Removable: x = 2; point of discontinuity: (2,2)

4.) Removable: x = -4; point of discontinuity: (-4,-6); non-removable: x = 4

5.) continuous

6.) Removable: x = 1; point of discontinuity: (1,1); non-removable: x = 0

7.) Removable: x = -1/2; point of discontinuity: (-1/2, -1); non-removable: x = 0

8.) Removable: x = 3; point of discontinuity: (3, -1/6); non-removable: x = -3