

# 1-3 GRDD CLSWRK *Continuity, End Behavior, and Limits*

Determine whether each function is continuous at the given  $x$ -value(s). Justify using the continuity test. If discontinuous, identify the type of discontinuity as *infinite*, *jump*, or *removable*.

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

2.  $f(x) = \frac{x-2}{x+4}$ ; at  $x = -4$

1a.

1b.

			X			

1c.

2a.

2b.

			X			

2c.

3.  $f(x) = x^3 - 2x + 2$ ; at  $x = 1$

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

3a.

3b.

			X			

3c.

4a1.

4b1.

			X			

4c1.

4a2.

4b2.

			X			

4c2.

**Determine between which consecutive integers the real zeros of each function are located on the given interval.**

5.  $f(x) = x^3 + 5x^2 - 4$ ;  $[-6, 2]$

6.  $g(x) = x^4 + 10x - 6$ ;  $[-3, 2]$

5.

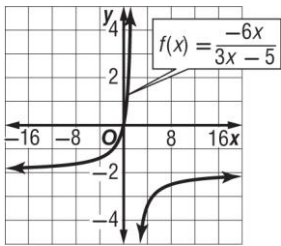
-6	-5	-4	-3	-2	-1	0	1	2

6.

-3	-2	-1	0	1	2	

**Use The Graph Of Each Function To Describe Its End Behavior. Support The Conjecture Numerically.**

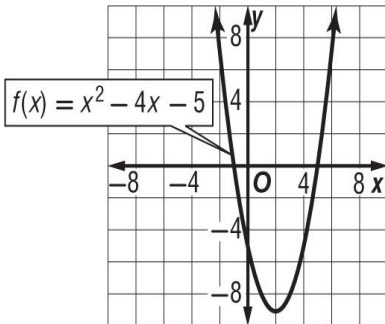
7.



7.

-10,000	-1,000	-100	0	100	1,000	10,000

8.



8.

-10,000	-1,000	100	0	100	1,000	10,000