Finish for HW tonight

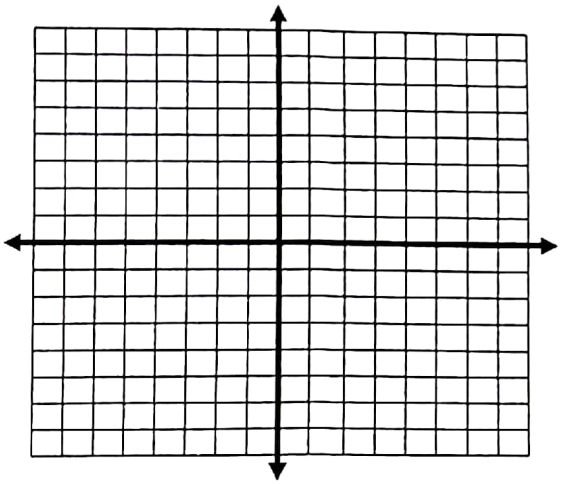
In-Class Review: Unit 4 Functions and Limits

Part 1:

1. Write an equation of a rational function, f(x) with Removable Discontinuity at 7, Non-Removable Discontinuity at -2, and Horizontal Asymptote of y = 3/4.

2. State the following and graph $g(x) = \dfrac{2x^2 - 10x + 8}{4x^2 - 4x}$

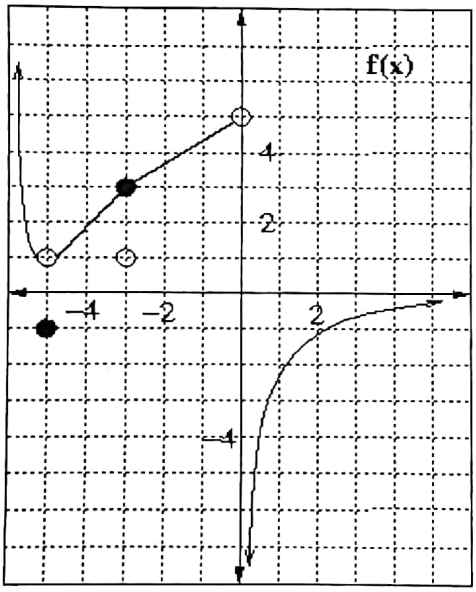
- Domain:
- Range:
- x & y intercepts:
- Removable Discontinuity:
- Non-Removable Discontinuity:
- Horizontal Asymptote:
- Limits at discontinuities:
- End Behavior using limits:



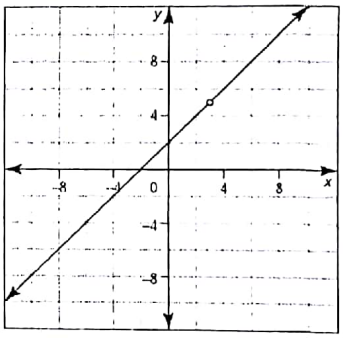
Part 2:

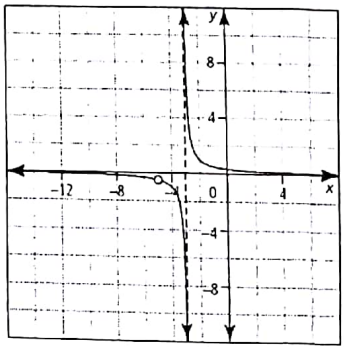
Using the graph of *f(x)* below, find the following limits.

1. $\lim_{x \to -5} f(x)$
2. $\lim_{x \to -3} f(x)$
3. $\lim_{x \to -\infty} f(x)$
4. $\lim_{x \to 0^-} f(x)$
5. $\lim_{x \to \infty} f(x)$
6. $\lim_{x \to 0} f(x)$
7. $f(-5)$



Write an equation for the graphed rational function.

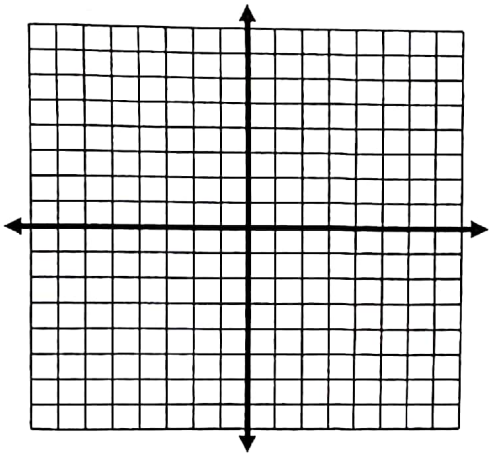
8.  Hole (3, 5)

9.  Hole (-5, -1/2)

Part 3:

State the following and make a graph $g(x) = \dfrac{\sqrt[3]{x}}{x^2 - x}$

- Domain:
- Range:
- x & y intercepts:
- Max and Min:
- Increasing:
- Decreasing:
- Limits at discontinuities:
- End Behavior using limits:



HW tonight = this side

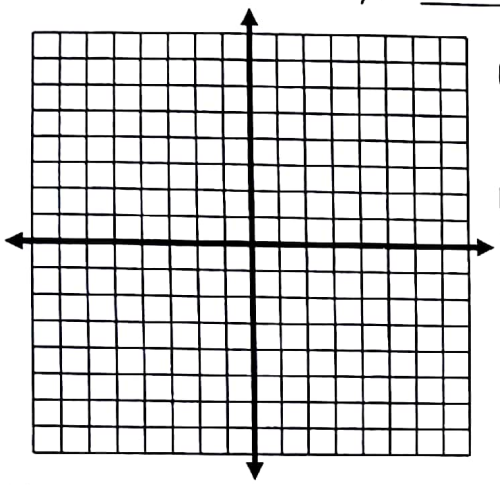
Extra Practice Unit 4 ICM Functions and Limits Name: _____

1. When finding the **domain**, some key items to consider are _____, _____, and _____.

2. When finding the **range**, some key items to consider are _____, _____, and _____.

Graph each function, showing the key features and plotting at least 3 points per curve. Also find the requested values. (Hint, see #1 and 2 for help with domain and range.

3. $f(x)=\sqrt{x^2-3x-18}$ x-int:_____ y-int:_____



Removable Disc. : _____

Nonremovable Disc. : _____

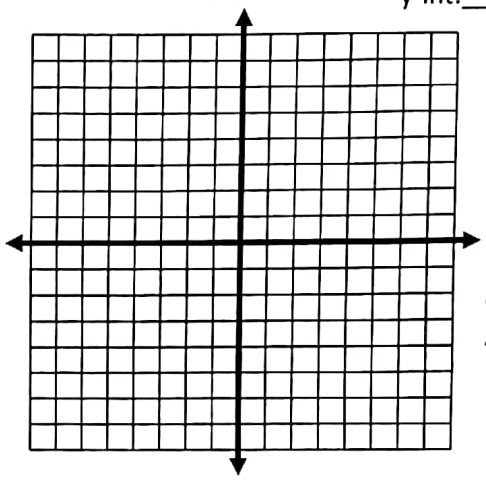
Horizontal Asymp: _____

End Behavior, written as Limits: _____

Domain:_____

Range:_____

4. $f(x)=\dfrac{x^2-6x-16}{x+2}$ x-int:_____ y-int:_____



Removable Disc. : _____

Nonremovable Disc. : _____

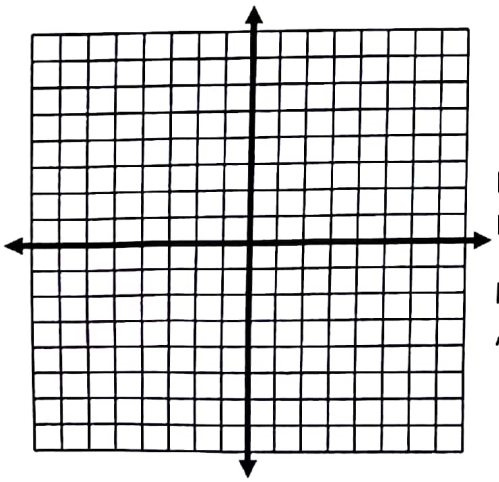
Horizontal Asymp: _____

End Behavior, written as Limits: _____

Domain:_____

Range:_____

5. $f(x)=\dfrac{4x^2-13x-35}{x^2-25}$



Removable Disc. : _____

Nonremovable Disc. : _____

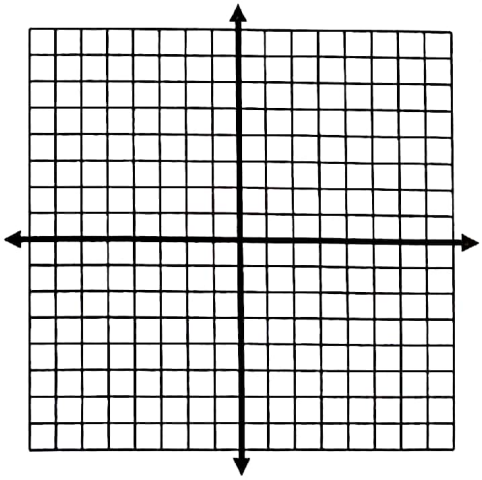
Horizontal Asymp: _____

End Behavior, written as Limits: _____

Domain:_____

Range:_____

6. $f(x)=\dfrac{\sqrt{2x+10}}{x-3}$



Removable Disc. : _____

Nonremovable Disc. : _____

Horizontal Asymp: _____

End Behavior, written as Limits: _____

Domain:_____

Range:_____