Written Homework Section 4.4 and 4.5

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Name:_____ **Due:** _____

In Problems 7–44, follow Steps 1 through 7 on page 228 to analyze the graph of each function.

8. $R(x) = \dfrac{x}{(x-1)(x+2)}$

Step 1: Factor the numerator and denominator of R (*if necessary*). *Find the domain of the Rational Function.*

Domain= *Interval Notation*	

Step 2: Write R in lowest term (*if not already*)

Step 2: Locate the *x and y-intercepts* of the graph (if any)

y-intercept=	
x-intercept=	

Step 4: Locate the vertical asymptote

Vertical Asymptote	

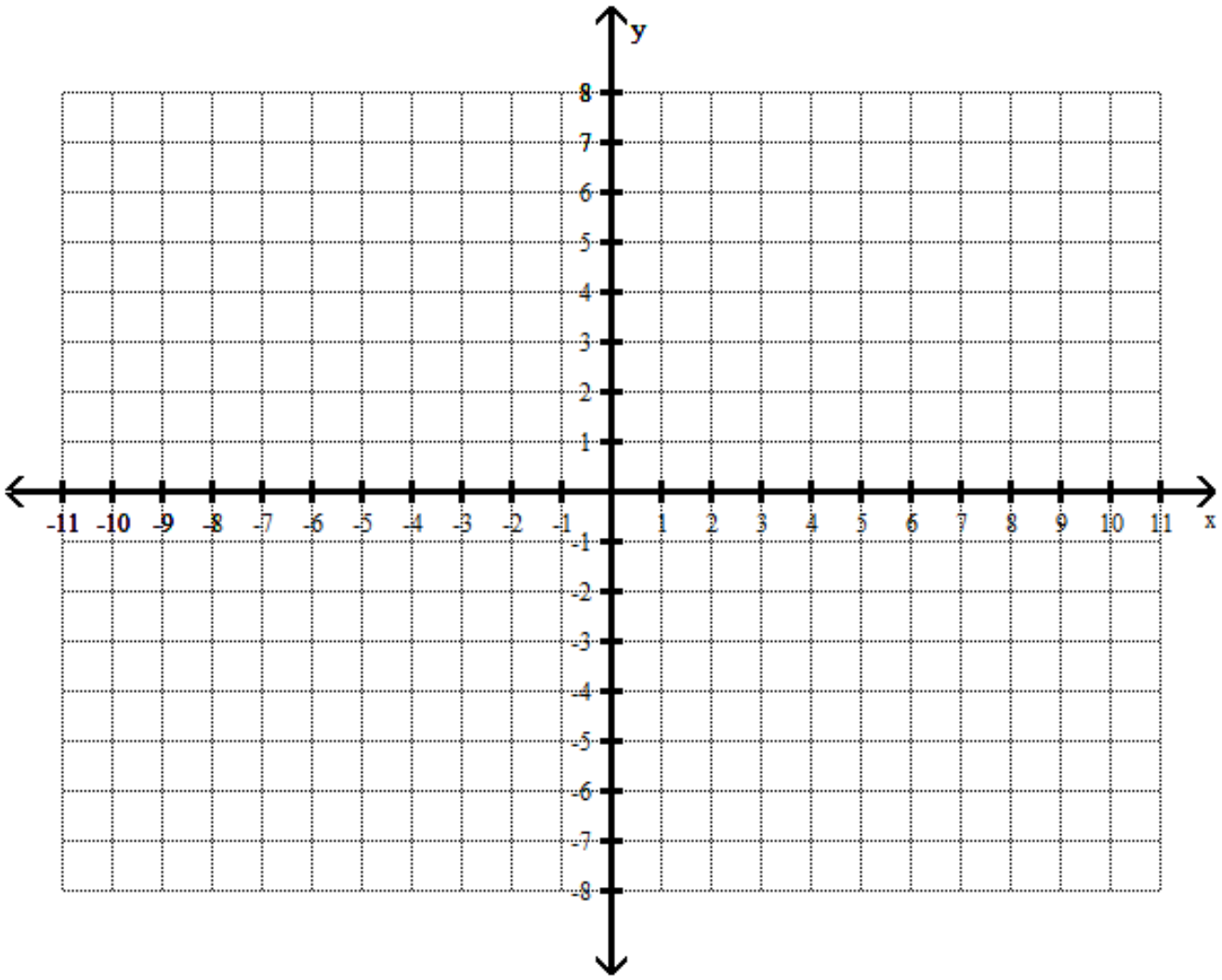
Step 5:

- **Locate the Horizontal asymptote or Oblique Asymptote**
- **Determine points if any at which the graph of R intersects this asymptote.**

Horizontal Asymptote	
Oblique Asymptote	
Points ***(if any at which the graph of R intersects this asymptote)***	

Step 6 and 7:

- **Graph R using a graphing calculator**
- **Use all results to now graph it by hand**



16. $G(x) = \dfrac{x^3 + 1}{x^2 + 2x}$

Step 1: Factor the numerator and denominator of R (*if necessary*). *Find the domain of the Rational Function.*

Domain= *Interval Notation*	

Step 2: Write R in lowest term (*if not already*)

Step 2: Locate the *x and y-intercepts* of the graph (if any)

y-intercept=	
x-intercept=	

Step 4: Locate the vertical asymptote

Vertical Asymptote	

Step 5:

- **Locate the Horizontal asymptote or Oblique Asymptote**
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Horizontal Asymptote	
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Step 6 and 7:

- **Graph R using a graphing calculator**
- **Use all results to now graph it by hand**