

Tuesday, Feb. 20th

Plan For Today:

1. Questions from Chapter 4?

- ✳ Hand-in Chapter 4 Project
- ✳ Do Chapter 4 Test

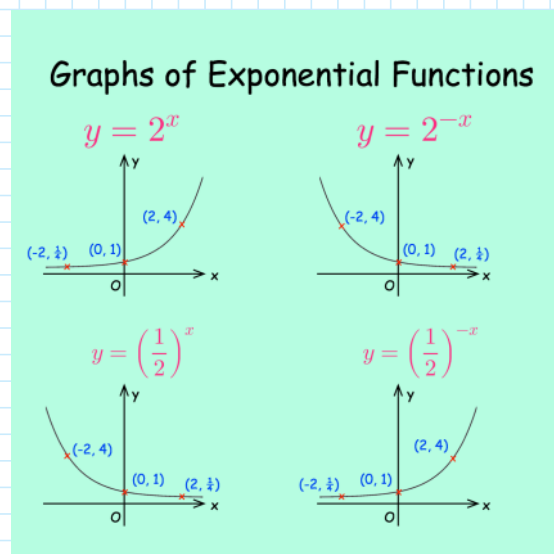
2. Go over any review for Ch3 and Ch4

- ▶ Unit 2 Exam is on Thursday
- ▶ Rewrite will be following Tuesday after class

3. Start Chapter 5: Exponents & Logarithms

- ▶ **5.1: Exponents**
- ▶ 5.2: Logarithmic Functions and Graphs
- ▶ 5.3: Properties of Logarithms
- ▶ 5.4: Exponential and Logarithmic Equations
- ▶ 5.5: Applications of Exponential and Log Equations

4. Work on Practice Questions from Workbook



Plan Going Forward:

1. Finish going through Chapter 3-4 practice questions and workbook reviews.

▶ **UNIT 2 EXAM ON CH3&4 ON THURSDAY, FEB. 22ND**

- 12 Multiple Choice & 18 marks on the Written
- ~1.5 hour - please prepare so you are not "learning" while doing the test
- Closed-book - no notes
- Rewrite is following Tuesday after class at 12:30pm
- I will email you this weekend when marks are posted so you can decide on the rewrite
- I will go over the marked exam on Tuesday

2. We will continue in Chapter 5 after the exam on Thursday.

- **CHAPTER 5 PROJECT DUE THURSDAY, MAR. 7TH**
- **CHAPTER 5 TEST ON THURSDAY, MAR. 7TH**

Please let me know if you have any questions or concerns about your progress in this course. The notes from today will be posted at anurita.weebly.com after class. Anurita Dhiman = adhiman@sd35.bc.ca

Ch4 Review

$$y = \frac{3x^2 - 8x - 16}{3x^2 - 16x + 16}$$

$$y = \frac{(3x+4)(\cancel{x-4})}{(3x-4)(\cancel{x-4})}$$

$$y = \frac{3x+4}{3x-4}$$

AC -48
 $-12, +4 = -8$

$$3x^2 - 12x / +4x - 16$$

$$3x(x-4) + 4(x-4)$$

$$(3x+4)(x-4)$$

AC 48
 $-12, -4 = +16$

$$3x^2 - 12x / -4x + 16$$

$$3x(x-4) - 4(x-4)$$

$$(3x-4)(x-4)$$

POD

$$x=4$$

$$(4, 2)$$

$$\frac{3(4)+4}{3(4)-4} = \frac{16}{8} = 2$$

Characteristics of Rational Functions Worksheet

1. $f(x) = \frac{x^2 + x - 2}{x^2 - x - 6}$

① Factor $f(x) = \frac{(x+2)(x-1)}{(x-3)(x+2)}$

② simplify $f(x) = \frac{x-1}{x-3}$

③ Characteristics.

Characteristic	Answer
a. simplified function	$f(x) = \frac{x-1}{x-3}$
b. POD (HAE) Point of Discontinuity	$(x+2) \rightarrow x \neq -2$ $(-2, \frac{3}{5})$
c. vertical asymptote(s)	$(x-3)$ VA $\rightarrow x=3$
d. horizontal asymptote	$\frac{1x^2}{1x^2} \rightarrow y=1$ HA
e. y-intercept	$x=0 \rightarrow y = \frac{0-1}{0-3} \rightarrow y = \frac{1}{3}$ $(0, \frac{1}{3})$
f. x-intercept (numerator)	$y=0 \rightarrow 0 = \frac{x-1}{x-3} \rightarrow x=1$ $0 = x-1 \rightarrow (1, 0)$
g. domain	$\sum x \mid x \neq 3, x \neq -2, x \in \mathbb{R}$
h. range	$\sum y \mid y \neq 1, y \neq \frac{3}{5}, y \in \mathbb{R}$

$y = \frac{-2-1}{-2-3} = \frac{-3}{-5} = \frac{3}{5}$
when $x = -2$

1) $\frac{1}{6k^2} = \frac{1}{3k^2} - \frac{1}{k}$

LCD
 $6k^2$

$$\frac{1}{6k^2} = \frac{1}{3k^2} \left(\frac{2}{2}\right) - \frac{1}{k} \left(\frac{6k}{6k}\right)$$

$$\frac{1}{6k^2} = \frac{2}{6k^2} - \frac{6k}{6k^2}$$

$$\rightarrow 0 = \frac{2}{6k^2} - \frac{6k}{6k^2} - \frac{1}{6k^2}$$

$$0 = \frac{2 - 6k - 1}{6k^2}$$

$$0 = 1 - 6k$$

$$-1 = -6k$$

$$\boxed{k = \frac{1}{6}} \leftarrow \text{check restrictions - } k \neq 0$$

13) $1 + \frac{x^2 - 5x - 24}{3x} = \frac{x-6}{3}$

LCD
 $3x$

$$\frac{1}{\left(\frac{3x}{3x}\right)} + \frac{x^2 - 5x - 24}{3x} = \frac{x-6}{3} \left(\frac{x}{x}\right)$$

$$\frac{3x}{3x} + \frac{x^2 - 5x - 24}{3x} - \frac{x^2 - 6x}{3x} = 0$$

$$\frac{3x + x^2 - 5x - 24 - x^2 + 6x}{3x} = 0$$

$$4x - 24 = 0$$

$$\rightarrow +24$$

$$\frac{4x}{4} = \frac{24}{4}$$

$$\boxed{x = 6} \leftarrow x \neq 0$$