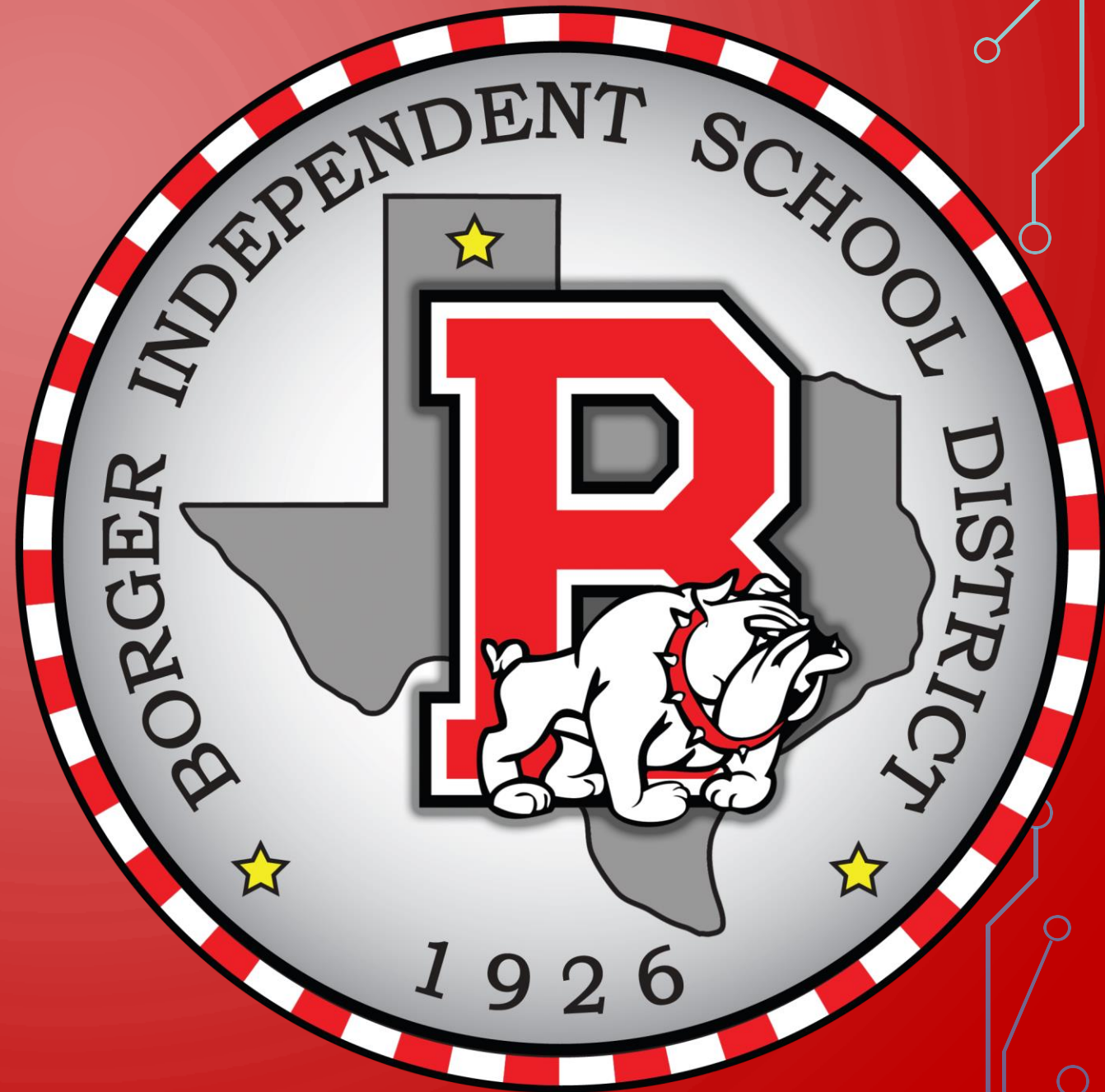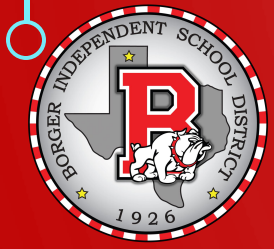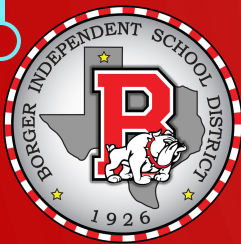# BOARD NOTES

7 JANUARY 2020

2A.7 (F) determine the sum, difference, product, and quotient of rational expressions with integral exponents of degree one and of degree two;

We will be able to simplify complex fractions.

WHAT WE NEED:

- TI-84

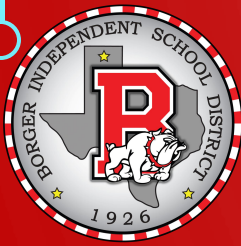## I WILL BE ABLE TO COMPLETE MY HOMEWORK GIVEN THE

- Equation

$$\frac{24\left(\frac{3}{4}-\frac{1}{8}\right)}{24\left(2+\frac{1}{12}\right)} = \frac{6\cdot3-3\cdot1}{48+2\cdot1} = \frac{18-3}{48+2} = \frac{15}{50} = \frac{3}{10}$$

4 8 12

4 4·2 4·3

4·2·3

= 24

$$\frac{\frac{3}{4}-\frac{1}{8}}{2+\frac{1}{12}} = \frac{\frac{6}{8}-\frac{1}{8}}{\frac{24}{12}+\frac{1}{12}} = \frac{\frac{5}{8}}{\frac{25}{12}} = \frac{5}{8}\cdot\frac{12^{3}}{25_{5}} = \frac{3}{10}$$

$$\frac{\dfrac{1}{\boxed{x+2}}}{6+\dfrac{4}{\boxed{x}}}$$

$$\overset{3}{}\quad\overset{4}{}$$

LCD $(x)(x+2)$

$$\underline{x^2+2x} \quad \text{or} \quad x(x+2)$$

$$\frac{x\cancel{(x+2)}\cdot\dfrac{1}{\cancel{x+2}}}{[x(x+2)]\left(6+\dfrac{4}{x}\right)} = \frac{x}{6(x^2+2x)+x(x+2)\cdot\dfrac{4}{\cancel{x}}}$$

$$= \frac{x}{6(x^2+2x)+4(x+2)} = \boxed{\frac{x}{6x^2+16x+8}}$$

$$\frac{12x\left(\frac{1}{x}+\frac{3}{2x}\right)}{12x\left(\frac{1}{3x}+\frac{3}{4x}\right)}$$

$$\frac{12\cdot1+6\cdot3}{4\cdot1+3\cdot3}=\boxed{\frac{30}{13}}$$

$x \quad 2x \quad 3x \quad 4x$

$$LCD: \; x\cdot2\cdot3\cdot2$$

$$= 12x$$

$$\frac{1}{1}$$

$$\frac{[(x-1)(x+1)]}{[(x-1)(x+1)]}$$
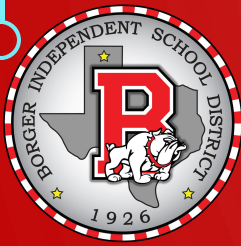
$$f(x) = 4x - 7$$

$$y = 4x - 7$$

$$x = 4y - 7$$

$$x + 7 = 4y$$

$$y = \frac{x+7}{4}$$

$$g(x) = \frac{x+7}{4}$$

① $f(g(x)) = 4\left(\frac{x+7}{4}\right) - 7$

$\quad = (x+7) - 7$

$\quad = x$

② $g(f(x)) = \frac{(4x-7)+7}{4}$

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

$\quad = x$

$\therefore$ By ① & ②

$g(x) = f^{-1}(x)$