

Starter #5

Calendar Math

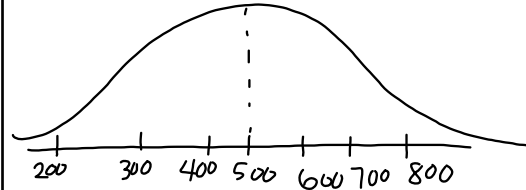
Homework Questions

3.3 Solve Rational Expressions

All work for 1st quarter is due by next Wed. October 19. Unit 3 test will go on 1st quarter grade.

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Calendar Math



#1 2nd - vars - #2 normal cdc ()
 #2 (low, high, mean, standard deviation)
 1000 high

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Homework Questions

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3.3 Solving Rational Expressions

Steps:

1. Find the restrictions
2. Factor
3. Get a common denominator
4. Multiply by the common denominator
5. Cross multiply (across the equal sign)
6. Solve for x
7. Always check answer
 1. Check on calculator
 2. # then hit stor-> then put in x
 3. Then put the equation in calculator

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Examples

$$\frac{2x+1}{x+5} = 1 \cdot (x+5)$$

$$2x+1 = x+5 \quad x \neq -5$$

$$-x \quad -x \quad x = 4$$

$$x+1 = 5 \quad x = 4$$

$$\frac{2(4)+1}{(4+5)} = 1 \quad \frac{9}{9} = 1$$

$$1 = 1 \quad \checkmark$$

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ex 2

$$\frac{-2}{x+8} = \frac{4x+3}{(x+8)(2x-1)} \cdot x+8 \quad 2x-1=0 \quad 2x+1 \neq 1$$

$$\frac{-2}{x+8} = \frac{4x+3}{(x+8)(2x-1)} \quad \frac{2x}{2} = \frac{1}{2} \quad x = \frac{1}{2}$$

$$\frac{-2}{\cancel{x+8}} = \frac{4x+3}{\cancel{(x+8)}(2x-1)} \quad -2(2x-1) = 1(4x+3)$$

$$\frac{-2}{1} = \frac{4x+3}{2x-1} \quad -4x+2 = 4x+3$$

$$\quad \quad \quad +4x \quad +4x$$

$$2 = 8x+3$$

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

$$\frac{-1}{8} = \frac{8x}{8} \quad X = -\frac{1}{8}$$

X ≠ 1/2, -8

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ex 3

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

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

$$\frac{3x-6}{(x+2)(x+2)} + \frac{x+2}{(x-2)(x+2)} = \frac{x}{(x+2)(x-2)}$$

$$\frac{(x+2)(x+2)}{(x+2)(x+2)} \frac{4x-4}{(x+2)(x+2)} = \frac{x}{(x+2)(x-2)}$$

$$4x-4 = x \quad 3x-4 = 0$$

$$-x \quad -x \quad +4 \quad +4$$

$$\frac{3x}{3} = \frac{4}{3}$$

$$X = \frac{4}{3}$$

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ex 4

$$\frac{5}{x^2-7x+12} - \frac{2}{3-x} = \frac{5}{x-4}$$

$$\frac{5}{(x-3)(x-4)} - \frac{2}{-1(x-3)} = \frac{5}{x-4}$$

$$\frac{-1 \cdot 5}{(x-3)(x-4)} + \frac{2(x-4)}{-1(x-3)(x-4)} = \frac{5}{x-4}$$

$$\frac{-5+2x-8}{(x-3)(x-4)} = \frac{5}{x-4}$$

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Calculator Check

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