Central High School- Everyone Connects:

Attend, Engage, Achieve

Algebra 2 Agenda 2/21-22:

1.) **FOCUS: Unit 6 Lesson 1-3** (15-20 min)

2.) **QUIZ: Lesson 1 & 2** (10-25 min)

3.) **Notes: Word Problems** (40-45 min)

- **WE do (odds)**
- **YOU do (evens)**

4.) **Questions: 8.6 Skills Practice WS**

CW/HW: U6L3b Word Problem WS + Review

Unit 6 TEST

3/1 Thurs

3/2 Fri

Must be done by this FRIDAY!!

Unit 5 TEST Retake

1.) Retake Contract Signed
2.) Test Corrections
3.) Retake Assignment
4.) After school tutoring

Test corrections past due DUE!!

FOCUS: Unit 6 Review

Learning Targets: I can simplify rational expressions.
I can multiply, divide, add, and subtract rational expressions.
I can solve rational equations.

Simplify.

1. $\dfrac{3x^2-16x-12}{9x^2-4}$

$(3x+2)(x-6)$ / $(3x+2)(3x-2)$

$\dfrac{x-6}{3x-2}$

2. $\dfrac{2x}{x-1}+\dfrac{-x+5}{2x+1}$

LCM $(x-1)(2x+1)$

$\dfrac{2x(2x+1)}{(x-1)(2x+1)}+\dfrac{(-x+5)(x-1)}{(2x+1)(x-1)}$

$\dfrac{4x^2+2x}{(x-1)(2x+1)}+\dfrac{-x^2+x-5x+5}{(x-1)(2x+1)}$

$\dfrac{3x^2-2x+5}{(x-1)(2x+1)}$

Solve.

3. $\dfrac{x}{x+1}+\dfrac{4}{x-2}=\dfrac{28}{x^2-x-2}$

$\dfrac{x(x-2)}{(x+1)(x-2)}+\dfrac{4(x+1)}{(x-2)(x+1)}=\dfrac{28}{(x-2)(x+1)}$

LCM $(x-2)(x+1)$

$\dfrac{x^2-2x}{(x+1)(x-2)}+\dfrac{4x+4}{(x+1)(x-2)}=\dfrac{28}{(x+1)(x-2)}$

$x^2-2x+4x+4=28$

$x^2+2x+4=28$

$x^2+2x-24=0$

$(x+6)(x-4)=0$

$x+6=0 \quad x-4=0$

$x=-6 \quad x=4$

Lesson 1-3

Put quiz in tray, check 8.6 Skills Prac WS, get ready for notes, and then begin on review of CW/HW!

8.6 Skills Practice #1-18

Learning Target:
I can solve rational equations.

1. $\frac{x}{x-1} = \frac{1}{2}$ **−1**

2. $2 = \frac{4}{n} + \frac{1}{3}$ **$\frac{12}{5}$**

3. $\frac{9}{3x} = \frac{-6}{2}$ **−1**

4. $3 - z = \frac{2}{z}$ **1, 2**

5. $\frac{2}{d+1} = \frac{1}{d-2}$ **5**

6. $\frac{r-3}{5} = \frac{8}{r}$ **−5, 8**

7. $\frac{2x+3}{x+1} = \frac{3}{2}$ **−3**

8. $\frac{-12}{y} = y - 7$ **3, 4**

9. $\frac{15}{x} + \frac{9x-7}{x+2} = 9$ **3**

10. $\frac{3b-2}{b+1} = 4 - \frac{b+2}{b-1}$ **4**

11. $2 = \frac{5}{2q} + \frac{2q}{q+1}$ **−5**

12. $8 - \frac{4}{z} = \frac{8z-8}{z+2}$ **$\frac{2}{5}$**

13. $\frac{1}{n+3} + \frac{5}{n^2-9} = \frac{2}{n-3}$ **−4**

14. $\frac{1}{w+2} + \frac{1}{w-2} = \frac{4}{w^2-4}$ **∅**

15. $\frac{x-8}{2x+2} + \frac{x}{2x+2} = \frac{2x-3}{x+1}$ **∅**

16. $\frac{12p+19}{p^2+7p+12} - \frac{3}{p+3} = \frac{5}{p+4}$ **2**

17. $\frac{2f}{f^2-4} + \frac{1}{f-2} = \frac{2}{f+2}$ **−6**

18. $\frac{8}{t^2-9} + \frac{4}{t+3} = \frac{2}{t-3}$ **5**

QUESTIONS

8.6 Skills Practice #1-18

Learning Target:
I can solve rational equations.

Solving Rational Equations

Learning Targets

I can solve rational equations in one variable.

I can solve a word problem involving fractional equations (i.e., resistance in physics, work problems, etc.).

WE DO!

$$\frac{\text{amount of element}}{\text{total solution}} = \text{new perentage as a fraction}$$

1. Mia adds a 70% acid solution to 12 milliliters of a solution that is 15% acid. How much of the 70% acid solution should be added to create a solution that is 60% acid?

	Original	Added	New
Amt. Acid	$.15(12)$	$+ .70x$	$= 60$
Total (mL)	12	$+ x$	$= 100$

$$\frac{100(.15(12)+.7x)}{100(12+x)} = \frac{60(12+x)}{100(12+x)}$$ LCM

$$180 + 70x = 720 + 60x$$

$$-180 \quad -60x \quad -180 \quad -60x$$

$$10x = 540$$

$$x = 54$$

54 mL of the 70% solution should be added

Solving Rational Equations

Learning Targets

I can solve rational equations in one variable.

I can solve a word problem involving fractional equations (i.e., resistance in physics, work problems, etc.).

YOU DO!

2. Jimmy adds a 65% fruit juice solution to 15 milliliters of a drink that is 10% fruit juice. How much of the 65% fruit juice solution must be added to create a fruit punch that is 35% fruit juice?

12.5mL

Solving Rational Equations

Learning Targets

I can solve rational equations in one variable.

I can solve a word problem involving fractional equations (i.e., resistance in physics, work problems, etc.).

WE DO!

~~3.~~ Sandra is rowing a canoe on Stanhope Lake. Her rate in still water is 6 miles per hour. It takes Sandra 3 hours to travel 10 miles round trip. Assuming that Sandra rowed at a constant rate of speed, determine the rate of the current.

Solving Rational Equations

Learning Targets

I can solve rational equations in one variable.

I can solve a word problem involving fractional equations (i.e., resistance in physics, work problems, etc.).

YOU DO!

4. The speed of the wind is 20 miles per hour. If it takes a plane 7 hours to fly 2368 miles round trip, determine the plane's speed in still air.

Solving Rational Equations

WE DO!

Learning Targets

I can solve rational equations in one variable.

I can solve a word problem involving fractional equations (i.e., resistance in physics, work problems, etc.).

$$\frac{1}{\text{one person}} + \frac{1}{\text{one person}} = \frac{1}{\text{combined (together)}}$$

5. Every year, the junior and senior classes at Hillcrest High School build a house for the community. If it takes the senior class 24 days to complete a house and 18 days if they work with the junior class, how long would it take the junior class to complete a house if they worked alone?

Junior: $\frac{1 \cdot 72}{x \cdot 72}$ + Senior: $\frac{1 \cdot 3x}{24 \cdot 3x}$ = Together: $\frac{1 \cdot 4x}{18 \cdot 4x}$

LCM: 24, 48, $*72x$

$$\frac{72}{72x} + \frac{3x}{72x} = \frac{4x}{72x}$$

$72 + 3x = 4x$

$-3x \quad -3x$

$x = 72$

Junior class would need 72 days to complete the house.

Solving Rational Equations

Learning Targets

I can solve rational equations in one variable.

I can solve a word problem involving fractional equations (i.e., resistance in physics, work problems, etc.).

YOU DO!

6. It took Anthony and Travis 6 hours to rake the leaves together last year. The previous year it took Travis 10 hours to do it alone. How long will it take Anthony if he raked hem by himself this year?

15 hrs

Solving Rational Equations

Learning Targets

I can solve rational equations in one variable.
I can solve a word problem involving fractional equations (i.e., resistance in physics, work problems, etc.).

YOU DO!

7. Noah and Owen paint houses together. If Noah can paint a particular house in 6 days and Owen can paint the same house in 5 days, how long would it take the two of them if they work together?

Noah Owen Together

$\frac{1.5x}{6.5x} + \frac{1.6x}{5.6x} = \frac{1.30}{x \cdot 30}$

LCM $30x$

$\frac{5x}{30x} + \frac{6x}{30x} = \frac{30}{30x}$

$5x+6x=30$

$11x=30$

$x=2\frac{8}{11}$

HW: Unit 6 Lesson 3b + Review

(skip #2)

Learning Targets

I can multiply and divide rational expressions.

I can add and subtract rational expressions.

I can solve rational equations in one variable.

I can solve a word problem involving fractional equations (i.e.,mixture problems, work problems, etc.).

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