From 4.4: Rational Expressions -> (Find the LCD)

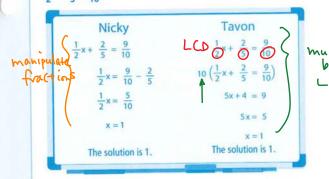
4 - 5

Solving Rational

Equations

CRITIQUE & EXPLAIN

Nicky and Tavon used different methods to solve the equation



A. Explain the different strategies that Nicky and Tavon used and the advantages or disadvantages of each.

See above... Tavon's: fractions

- B. Did Nicky use a correct method to solve the equation? Did Tavon?
 - · Both correct!
- C. Use Structure Why might Tavon have chosen to multiply both sides of the equation by 10? Could he have used another number? Explain. MP.7

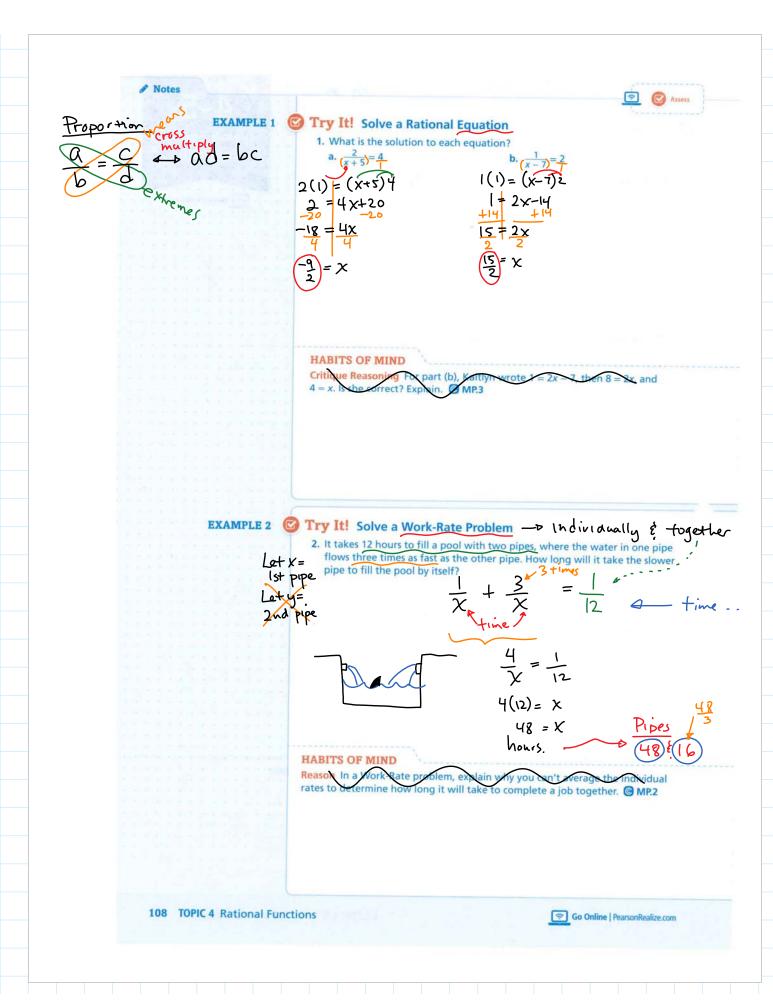
yes... any common denominator.

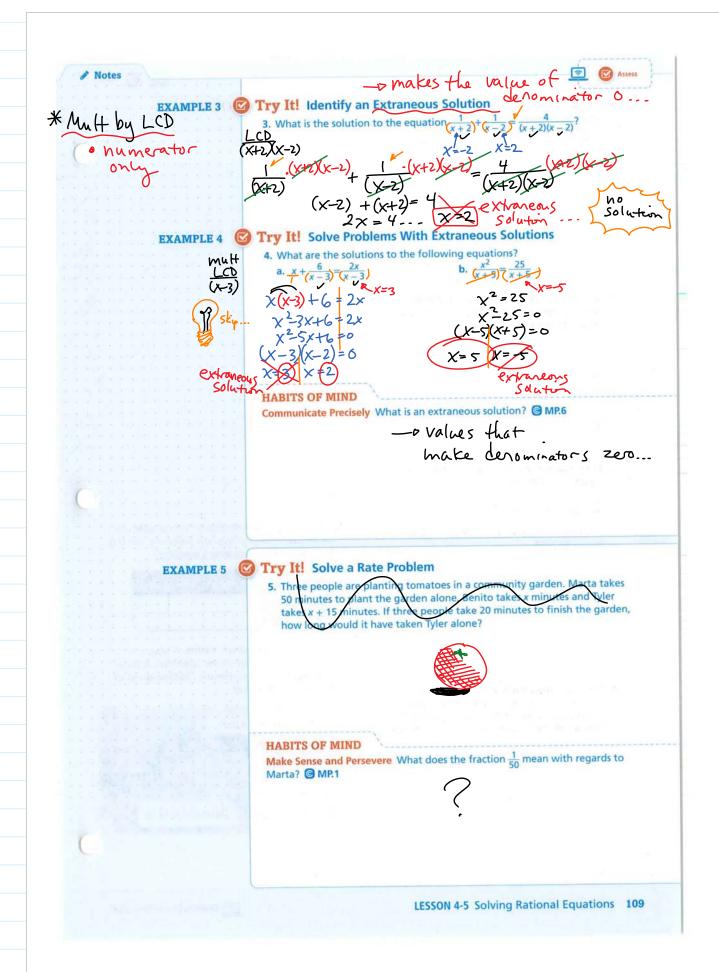
HABITS OF MIND

Reason If Tavon had multiplied both sides of the equation by 100, would his answer have been 10 times as much? Explain. MP.2

No._ The answer will reduce to 10--

LESSON 4-5 Solving Rational Equations 107







Do You UNDERSTAND?

1.? ESSENTIAL QUESTION How can you solve rational equations and identify extraneous solutions?

Vocabulary Write your own example of a rational equation that, when solved, has at least one extraneous solution.

3. Error Analysis A student solved the rational equation as follows:

$$\frac{1}{2x} - \frac{2}{5x} = \frac{1}{10x} - 3; x = 0$$

Describe and correct the error the student made.

MP.3

4. Construct Arguments Yuki says, "You can check the solution(s) of rational equations in any of the steps of the solution process."
Explain why her reasoning is incorrect. MP.3

Do You KNOW HOW?

Solve. 5. $\frac{4}{x+6} = \frac{2}{7}$ Proportion? 4(1) = 2(X+6) $4 = 2 \times 12$ $-8 = 2 \times 12$

-4 = X



Organizing given information into a table can be helpful when solving rate problems. Use this table to solve the following problem.

	Distance	Rate	Time
Upstream			
Downstream			

The speed of a stream is 4 km/h. A boat can travel 6 km upstream in the same time it takes to travel 12 km downstream. Find the speed of the boat in still water.

