

2.4 Rational Equations

NOTES

ALGEBRA

Write your questions here!



Rational Equations:

- They are special because we have to check to see if all real numbers would work.

Ex 1:

What number would not be a solution to this equation? Why?

Ex 2:

State any excluded values and then solve the equation.

Ex 3:

Ex 4:

Ex 5:

★HOT TIP!!!

YOUR TURN!!!!

A:

B:

SUMMARY:

Now,
summarize
your notes
here!

2.4 Rational Equations

PRACTICE

Directions: State all excluded values for the below equations.

1) $\frac{x+9}{9} = \frac{3}{x-8}$

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

3) $\frac{x}{2x-7} = 4$

Directions: Solve each equation. Make sure you state any excluded value(s).

4) $\frac{8}{4} = \frac{4}{b}$

5) $\frac{4}{h-10} = \frac{8}{h-7}$

6) $5 = \frac{95}{1-3p}$

7) $-\frac{32}{2-3a} - 8 = -6$

$$8) \frac{7}{x+6} = \frac{2}{5}$$

$$9) \frac{8}{x+4} = \frac{6}{x-7}$$

$$10) \frac{100}{4v-3} = 4$$

$$11) 8 = 4 - \frac{156}{1-8n}$$

Directions: Simplify each expression.

$$17) (2x^5 + 6x^4) + (3x^4 - 5x^2 + x)$$

$$18) (6h + 1)(6h - 1)$$

$$19) (x - 1)(x^2 - 5x - 1)$$

$$20) (5y - 4) - (y - 9)$$

Directions: Solve each equation. Make sure you state any excluded value(s).

$$1) \frac{6}{k+3} = \frac{10}{k-9}$$

$$2) \frac{15}{v+1} - 7 = -12$$

3. The Algebras solve the equation $-\frac{34}{x-1} = 3$. Which one of their answers do you think is the BEST answer! CIRCLE IT!

BEAN: -10.3

BRUST: $-10.\bar{3}$

KELLY: $-\frac{31}{3}$

SULLY: $-10\frac{1}{3}$

SMP #2

Justify your reasoning with COMPLETE sentences.

Which Algebro(s) have an answer(s) that you think is not correct at all? JUSTIFY your reasoning with complete sentences.

4. Mr. Kelly loves throwing axes in his spare time. He's not very good though. He keeps track of the number of times he actually hits his wooden target. He finds his on target average by dividing the number of times he hits the wooden target by the number of times he throws the axe in total. He finds it as a decimal rounded to two places. After his first week of practicing he hits the target 9 times out of 35 attempts.

a. What is his on target average for his first week?

b. How many times in a row would he need to hit his target to get his on target average above .400?

EXIT TICKET -

1. Write an equation that would have the restriction
 $x \neq 4$

2. Write an equation that would have the restriction
 $x \neq -3$ and $x \neq \frac{1}{2}$