Pre-Calculus 11 - VLN

Chapter 4: Rationals

Lesson 4: Solving Rational Equations

Question #1

Reference Q.15264

In each case, state the nonpermissible value(s), solve the equation algebraically, and verify the solution(s).

a. $\dfrac{6a+3}{2a-3}=\dfrac{3}{2}$

b. $\dfrac{2}{m+1}=\dfrac{8m}{m+1}-3$

Question #2

Reference Q.15238

In each case, state the nonpermissible value(s), solve the equation algebraically, and very the solution(s).

a. $\dfrac{4}{x+2}=3$

b. $\dfrac{3}{2x-1}=\dfrac{4}{x+7}$

Question #3

Reference Q.15239

In each case, state the nonpermissible value(s), solve the equation algebraically, and verify the solution(s).

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

b. $\dfrac{30}{x^2-25}=\dfrac{3}{x-5}-\dfrac{2}{x+5}$

Question #4

Reference Q.15269

The root of the rational equation $\dfrac{1}{x+3}-\dfrac{2}{x+7}=\dfrac{x}{x^2+10x+21}$, to the nearest tenth, is ____.

Question #5

Reference Q.15241

Determine the roots of the following equations algebraically.

a. $\dfrac{4x+2}{2x-1}-2=\dfrac{6x+2}{2x-1}$

b. $\dfrac{2}{x}+\dfrac{1}{6-x}=1$

Question #6

Reference Q.15242

Determine the roots of the equation $\dfrac{8}{x}-5=\dfrac{x}{2}$ in simplest radical form.

Question #7

Reference Q.15244

The roots of the rational equation $\dfrac{x+3}{2x+1}=\dfrac{x+7}{5x+1}$ are $x=a$ and $x=-b$, where $a,b>0$. The value of $\dfrac{a}{b}$, to the nearest hundredth, is ____.

Question #8

Reference Q.15265

Solve.

a. $\dfrac{5a-3}{a+7}=\dfrac{5a-14}{a+1}$

b. $\dfrac{2x+1}{x-3}-\dfrac{4x-1}{2x-3}=0$

c. $\dfrac{6y-2}{3y-2}-\dfrac{2y+6}{y+6}=0$

d. $\dfrac{4a+9}{2a}-\dfrac{3}{4}=2$

e. $\dfrac{5}{3x-1}+\dfrac{3x}{3x+1}=1$

f. $\dfrac{8x}{2x+3}-\dfrac{x+3}{x+7}=3$

Question #9

Reference Q.15240

Solve the following equations algebraically.

a. $\dfrac{x-1}{x+1}=\dfrac{2x}{15}$

b. $\dfrac{4x}{3x+4}-\dfrac{10}{x+6}=0$

Question #10

Reference Q.15266

Solve and verify the equation $\dfrac{1}{x^2-9}=\dfrac{4}{x-3}-\dfrac{2}{x+3}$.

Question #11

Reference Q.15267

If $\dfrac{2}{4-y}=3$, then y equals

A. $\dfrac{5}{2}$

B. $\dfrac{10}{3}$

C. -2

D. $\dfrac{14}{3}$

Question #12

Reference Q.15268

The solution to the rational equation $\dfrac{4}{x}+\dfrac{2x}{x-4}-2=0$, to the nearest tenth, is _____.

Question #13

Reference Q.15243

The solution to the equation $\dfrac{7}{a+6}-\dfrac{3}{a}=\dfrac{4}{a+6}$ is

A. $a=18$
B. $a=-6$
C. $a=0$
D. no solution