

Name: This key was posted on time.

Class: Algebra II

Homework: Solve Rational Equations (Lesson 3)

Solve each equation. Check each solution – watch for extraneous solutions

1. $\frac{4}{x} = \frac{x}{4}$
 -4

2. $\frac{3x}{4} = \frac{5x+1}{3}$
 $-\frac{4}{11}$

2. $\frac{3}{2x-3} = \frac{1}{5-2x}$
 $\frac{9}{4}$

4. $\frac{x-4}{3} = \frac{x-2}{2}$
 -2

5. $\frac{3}{1-x} = \frac{2}{1+x}$
 $-\frac{1}{5}$

6. $\frac{1}{x} = \frac{2}{x+3}$
 3

7. $\frac{x-1}{6} = \frac{x}{4}$
 -2

8. $\frac{x-2}{10} = \frac{x-7}{5}$
 12

Name: _____

Class: _____

9. $\frac{3}{3-x} = \frac{4}{2-x}$

6

10. $\frac{2}{x+3} + \frac{5}{3-x} = \frac{6}{x^2-9}$

-9

11. $\frac{1}{2x+2} + \frac{5}{x^2-1} = \frac{1}{x-1}$

7

12. $\frac{2y}{5} + \frac{2}{6} = \frac{y}{2} - \frac{1}{6}$

5

13. Abby and Alison are roommates. Abby can clean their apartment in 3 hours. Alison can do it in 5 hours. If they work together, how long will it take Abby and Alison to clean their apartment? Give your answer in hours.

$1\frac{7}{8}$ hours

14. Barb can shovel the snow from her sidewalks in 40 minutes. Bonnie can do it in 60 minutes. Working together will save them time. Write and solve an equation to determine the total amount of time it will take Barb and Bonnie to complete the job when they are working together. Give your answer in hours.

$\frac{2}{5}$ hour