

## Worksheet 12-5: Solving Rational Equations (Cross Multiplying)

An "extraneous solution" is \_\_\_\_\_

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Solve each equation (for problems set up as a proportion). Check your solution. You will have to rearrange some problems so you can cross multiply.

1.  $\frac{x}{4} = \frac{x+2}{2}$

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

3.  $\frac{x^2+3}{7x} = \frac{x+1}{6}$

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

5.  $\frac{9}{x} + 1 = \frac{2x+2}{x}$

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

$$7. \quad \frac{x}{3} = \frac{-2}{x+7}$$

$$8. \quad 2 = \frac{x+2}{x-3}$$

$$9. \quad \frac{2x+4}{5x} = \frac{2}{x}$$

$$10. \quad \frac{2x-6}{x-6} = \frac{x}{x+2}$$

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

$$12. \quad \frac{6}{x-3} - 4 = \frac{2}{x-3}$$

$$13. \quad \frac{x-3}{x+5} = \frac{x}{x+2}$$

$$14. \quad \frac{x}{x^2-2} = \frac{-1}{x}$$

$$15. \quad \frac{x+10}{x^2-2} = \frac{4}{x}$$

$$31) \frac{b-8}{8} = \frac{b-9}{2}$$

$$32) \frac{8}{3} = \frac{r+9}{r+8}$$

$$33) \frac{3}{7} = \frac{x-2}{x-7}$$

$$34) \frac{n-4}{9} = \frac{n+8}{2}$$

$$35) \frac{x+2}{x+7} = \frac{7}{4}$$

$$36) \frac{p+9}{10} = \frac{p-10}{9}$$

$$37) \frac{v+6}{3} = \frac{v+9}{8}$$

$$38) \frac{6}{k+3} = \frac{5}{k-7}$$

$$39) \frac{m-8}{5} = \frac{m-6}{6}$$

$$40) \frac{n+7}{2} = \frac{n-6}{9}$$