

Vocabulary, Readiness & Video Check

Determine whether each is an equation or an expression. Do not solve or simplify.

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

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

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

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

5. $\frac{y+7}{2} = \frac{y+1}{6} + \frac{1}{y}$

6. $\frac{y+1}{6} + \frac{1}{y}$

Choose the least common denominator (LCD) for the rational expressions in each equation. Do not solve.

7. $\frac{x}{7} - \frac{x}{2} = \frac{1}{2}$; LCD = _____

- a. 7 b. 2 c. 14 d. 28

8. $\frac{9}{x+1} + \frac{5}{(x+1)^2} = \frac{x}{x+1}$; LCD = _____

- a.
- $x+1$
- b.
- $(x+1)^2$
- c.
- $(x+1)^3$

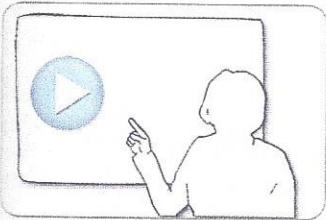
9. $\frac{7}{x-4} = \frac{x}{x^2-16} + \frac{1}{x+4}$; LCD = _____

- a.
- $(x+4)(x-4)$
- b.
- $x-4$
- c.
- $x+4$
- d.
- $(x^2-16)(x-4)(x+4)$

10. $3 = \frac{1}{x-5} - \frac{2}{x^2-5x}$; LCD = _____

- a.
- $x-5$
- b.
- $3(x-5)$
- c.
- $3x(x-5)$
- d.
- $x(x-5)$

Martin-Gay Interactive Videos



See Video 6.5

Watch the section lecture video and answer the following questions.

OBJECTIVE

1

11. From Examples 2 and 3, why is it important to determine whether you have a linear or a quadratic equation before you finish solving the equation?

OBJECTIVE

1

12. From Examples 2 and 3, what extra check do you make for a proposed solution before you see that it satisfies the original equation?

6.5 Exercise Set

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Solve each equation. See Examples 1 and 2.

1. $\frac{x}{2} - \frac{x}{3} = 12$

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

3. $\frac{x}{3} = \frac{1}{6} + \frac{x}{4}$

4. $\frac{x}{2} = \frac{21}{10} - \frac{x}{5}$

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

6. $\frac{5}{3x} + 1 = \frac{7}{6}$

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

8. $\frac{x^2-14}{2x} = -\frac{5}{2x}$

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

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

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

15. $\frac{x^2-23}{2x^2-5x-3} + \frac{2}{x-3} = \frac{-1}{2x+1}$

16. $\frac{4x^2-24x}{3x^2-x-2} + \frac{3}{3x+2} = \frac{-4}{x-1}$

17. $\frac{1}{x-4} - \frac{3x}{x^2-16} = \frac{2}{x+4}$

Solve each equation. See Examples 3 through 6.

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

10. $\frac{x-7}{x-1} = \frac{11}{x-1}$