

12 Rational Equations and Functions



TEXAS

A.11.B

12.1 Model Inverse Variation

2A.4.B

12.2 Graph Rational Functions

A.1.D

12.3 Divide Polynomials

A.4.A

12.4 Simplify Rational Expressions

A.4.A

12.5 Multiply and Divide Rational Expressions

A.4.A

12.6 Add and Subtract Rational Expressions

2A.10.D

12.7 Solve Rational Equations

Before

In previous chapters and courses, you learned the following skills, which you'll use in Chapter 12: performing operations on numerical fractions, solving equations, and factoring polynomials.

Prerequisite Skills

VOCABULARY CHECK

1. What is the **least common denominator** of $\frac{3}{8}$ and $\frac{7}{10}$?
2. Which equation is a **direct variation** equation, $\frac{y}{5} = x$ or $\frac{5}{y} = x$?
3. What is the **degree** of the polynomial $4x - 2 + 5x^2$?
4. Identify the **extraneous solution** when solving $\sqrt{x+2} = x$.

SKILLS CHECK

Factor the polynomial. (Review pp. 583, 600, 606 for 12.4–12.6.)

5. $x^2 - 2x - 15$ 6. $2x^2 - 8x + 6$ 7. $9x^2 - 25$ 8. $3x^3 - 48x$

Add, subtract, multiply, or divide. (Review pp. 914, 915 for 12.5–12.6.)

9. $\frac{1}{3} + \frac{3}{4}$ 10. $\frac{7}{8} - \frac{2}{5}$ 11. $\frac{5}{9} \times \frac{3}{5}$ 12. $\frac{3}{10} \div \frac{6}{25}$

Solve the equation or proportion. (Review pp. 134, 162, 583, 729 for 12.7.)

13. $4x = 9$ 14. $\frac{x}{10} = \frac{3}{5}$ 15. $x^2 + x = 6$ 16. $\sqrt{x-9} = 2$



TEXAS

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Prerequisite skills practice at classzone.com