Algebraic Fractions

Self-Test 1

Allow 20 minutes to complete this test.

1. Simplify \( \frac{x^2 + 7x}{6x + 42} \).

2. Simplify \( \frac{x^2 - 9}{x^2 + 4x - 21} \).

3. Simplify \( \frac{15}{w^3 c^3} \).

4. Simplify \( \frac{e^2 - f^2}{e - f} - 1 \).

5. Simplify \( \frac{x^2 + 12x + 35}{x^2 + 3x - 10} \).

6. Write \( \frac{1}{x} - \frac{1}{y} - \frac{1}{z} \) as a single fraction.

7. Write \( \frac{9}{9x^2} - \frac{x}{x - 1} - \frac{x^3}{x^2} \) as a single fraction.

8. Simplify \( \frac{64 - y^2}{y^2 + 5y - 24} \).

9. Simplify and write \( \frac{y + 1}{y + 2} \times \frac{y + 3}{y + 1} - 2 \) as a single fraction.

10. Write \( \frac{x + y}{2} + \frac{3x - y}{5} - \frac{7(2x - 4)}{6} \) as a single fraction.