

11-6 Skills Practice**Adding and Subtracting Rational Expressions**

Find each sum or difference.

1. $\frac{2y}{5} + \frac{y}{5}$

3. $\frac{t+3}{7} - \frac{t}{7}$

4. $\frac{c+8}{4} - \frac{c+6}{4}$

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

6. $\frac{g+2}{4} + \frac{g-8}{4}$

7. $\frac{x}{x-1} - \frac{1}{x-1}$

8. $\frac{3r}{r+3} - \frac{r}{r+3}$

Find the LCM of each pair of polynomials.

9. $4x^2y, 12xy^2$

10. $n+2, n-3$

11. $2r-1, r+4$

12. $t+4, 4t+16$

Find each sum or difference.

13. $\frac{5}{4r} - \frac{2}{r^2}$

14. $\frac{5x}{3y^2} - \frac{2x}{9y}$

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

16. $\frac{d-1}{d-2} - \frac{3}{d+5}$

17. $\frac{b}{b-1} + \frac{2}{b-4}$

18. $\frac{k}{k-5} + \frac{k-1}{k+5}$

11-7 Skills Practice**Mixed Expressions and Complex Fractions**

Write each mixed expression as a rational expression.

1. $6 + \frac{4}{h}$

2. $7 + \frac{6}{p}$

3. $4b + \frac{b}{c}$

4. $8q - \frac{2q}{7}$

5. $2 + \frac{4}{d-5}$

6. $5 - \frac{6}{f+2}$

7. $b^2 + \frac{12}{b+3}$

8. $m - \frac{6}{m-7}$

9. $2a + \frac{a-2}{a}$

10. $4r - \frac{r+9}{2r}$

Simplify each expression.

11. $\frac{2\frac{1}{2}}{4\frac{3}{4}}$

12. $\frac{3\frac{2}{3}}{5\frac{2}{5}}$

14. $\frac{a^2}{b^3} \cdot \frac{c}{b}$

15. $\frac{x^2y}{c} \cdot \frac{c}{xy^2}$

13. $\frac{r}{n^2} \cdot \frac{r^2}{n}$

16. $\frac{r-2}{r-2} \cdot \frac{r+3}{3}$

17. $\frac{w+4}{w} \cdot \frac{w-16}{w}$

18. $\frac{x^2-1}{x-1} \cdot \frac{1}{x^2}$

19. $\frac{b^2-4}{b-2} \cdot \frac{10}{b-2}$

11-8 Skills Practice**Rational Equations**

Solve each equation. State any extraneous solutions.

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

2. $\frac{3}{q} = \frac{5}{q+4}$

3. $\frac{7}{m+1} = \frac{12}{m+2}$

4. $\frac{3}{x+2} = \frac{5}{x+8}$

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

6. $\frac{b-2}{b} = \frac{b+4}{b+2}$

7. $\frac{3m}{2} - \frac{1}{4} = \frac{10m}{8}$

8. $\frac{7g}{9} + \frac{1}{3} = \frac{5g}{6}$

9. $\frac{2a+5}{6} - \frac{2a}{3} = -\frac{1}{2}$

10. $\frac{n-3}{10} + \frac{n-5}{5} = \frac{1}{2}$

11. $\frac{c+2}{c} + \frac{c+3}{c} = 7$

12. $\frac{3b-4}{b} - \frac{b-7}{b} = 1$

13. $\frac{m-4}{m} - \frac{m-11}{m+4} = \frac{1}{m}$

14. $\frac{f+2}{f} - \frac{f+1}{f+5} = \frac{1}{f}$

15. $\frac{r+3}{r-1} - \frac{r}{r-3} = 0$

16. $\frac{u+1}{u-2} - \frac{u}{u+1} = 0$

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

18. $\frac{5}{m-4} - \frac{m}{2m-8} = 1$