Name _____ Date _____

6.4 Practice B

In Exercises 1–3, find the sum or difference.

1. $\frac{x}{25x^2} - \frac{5}{25x^2}$

2. $\frac{2x^2}{x + 6} + \frac{8x}{x + 6}$

3. $\frac{3x}{x - 4} - \frac{12}{x - 4}$

In Exercises 4–7, find the least common multiple of the expressions.

4. $36x^2, 9x^2 - 18x$

5. $x^2 - 100, x - 10$

6. $25x^2 - 4, 3x^2 - 10x - 8$

7. $x^2 + 7x - 18, x + 9$

8. Describe and correct the error in finding and simplifying the sum.

$$\frac{4}{7x} + \frac{5}{x^3} = \frac{4(x^3)}{7x(x^3)} + \frac{5(7x)}{x^3(7x)} = \frac{4x^3 + 35x}{7x^4}$$

In Exercises 9–12, find the sum or difference.

9. $\frac{7}{x - 5} + \frac{4x}{x + 1}$

10. $\frac{7}{x^2 - 5x - 24} + \frac{3}{x - 8}$

11. $\frac{x^2 - 3}{x^2 - 6x - 16} - \frac{x + 5}{x + 2}$

12. $\frac{x - 2}{x - 3} + \frac{3}{x} + \frac{6x}{2x + 1}$

In Exercises 13 and 14, tell whether the statement is *always*, *sometimes*, or *never* true. Explain.

13. The LCD of two rational functions is one of the denominators when the other denominator is a factor.

14. The LCD of two rational functions will have a degree equal to that of the denominator with the higher degree.

In Exercises 15–18, rewrite the function in the form $g(x) = \frac{a}{x - h} + k$. Graph the function. Describe the graph of g as a transformation of the graph of $f(x) = \frac{a}{x}$.

15. $g(x) = \frac{5x + 3}{x + 4}$

16. $g(x) = \frac{9x}{x + 12}$

17. $g(x) = \frac{5x - 4}{x}$

18. $g(x) = \frac{8x + 13}{x - 6}$