Name _____ Date _____ Period _____

Adding and Subtracting Rational Expressions

Find the least common denominator.

1. $\dfrac{2}{5} + \dfrac{1}{15}$

2. $\dfrac{5}{12} - \dfrac{3}{8}$

3. $\dfrac{2x}{x+5} - \dfrac{x}{x+8}$

4. $\dfrac{3}{x+2} - \dfrac{2}{3x+6}$

5. $\dfrac{4}{x^2-x} + \dfrac{6}{x^2-4x+3}$

Perform the indicated operation. If possible, simplify your answer.

6. $\dfrac{27}{11x} - \dfrac{5}{11x}$

7. $\dfrac{14x}{2x-3} - \dfrac{21}{2x-3}$

8. $\dfrac{2x}{x+1} + \dfrac{2}{-(x+1)}$

9. $\dfrac{3x}{x^2+6x+9} + \dfrac{9}{x^2+6x+9}$

10. $\dfrac{5x}{25x^2-49} - \dfrac{7}{25x^2-49}$

11. $\dfrac{3}{x+2} - \dfrac{2}{3(x+2)}$

12. $\dfrac{5}{2(2x-1)} + \dfrac{1}{5(2x-1)}$

13. $\dfrac{7}{-6x+30} + \dfrac{2}{3x-15}$

14. $\dfrac{2}{5x} - \dfrac{3}{20x^2}$

15. $\dfrac{x^2+5x-34}{(x-8)(x-1)} - \dfrac{10}{-(x-8)}$

16. $\dfrac{1}{x+4} - \dfrac{3}{x^2+11x+28}$

17. $\dfrac{2x}{x+5} - \dfrac{x}{x+8}$

18. $\dfrac{4}{x^2-x} + \dfrac{6}{x^2-4x+3}$

19. $\dfrac{3}{x^2-4}+\dfrac{2}{x^2+5x+6}$

20. $\dfrac{3}{2x(x-7)}+\dfrac{2}{x^2-8x+7}$

21. $\dfrac{8}{2x+3}+\dfrac{4}{x-2}-\dfrac{3x}{2x^2-x-6}$

Simplify.

22. $\dfrac{x^2-4x-5}{x+1}$

23. $\dfrac{-4x^3-10x^2+2x}{2}$

24. $(x-6)^2$

25. $(-3x^2)^4$