

Practice 12-6

Adding and Subtracting Rational Expressions

Simplify.

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|---------------------------------------|--|--|
| 1. $\frac{3x}{4} - \frac{x}{4}$ | 2. $\frac{3}{x} + \frac{5}{x}$ | 3. $\frac{5x}{6} - \frac{2x}{3}$ |
| 4. $\frac{x}{3} + \frac{x}{5}$ | 5. $\frac{3m}{4} + \frac{5m}{12}$ | 6. $\frac{4x}{7} - \frac{3x}{14}$ |
| 7. $\frac{6}{7t} - \frac{3}{7t}$ | 8. $\frac{d}{3} + \frac{4d}{3}$ | 9. $\frac{7}{2d} - \frac{3}{2d}$ |
| 10. $\frac{3}{2d^2} + \frac{4}{3d}$ | 11. $\frac{9}{m+1} - \frac{6}{m-1}$ | 12. $\frac{3}{x} - \frac{7}{x}$ |
| 13. $\frac{7a}{6} + \frac{a}{6}$ | 14. $\frac{4}{k+3} - \frac{8}{k+3}$ | 15. $\frac{3}{4z^2} + \frac{7}{4z^2}$ |
| 16. $\frac{6}{x^2-1} + \frac{7}{x-1}$ | 17. $\frac{2x}{x^2-1} - \frac{3}{x+1}$ | 18. $\frac{3t}{8} + \frac{3t}{8}$ |
| 19. $\frac{4}{3a^2} - \frac{1}{2a^3}$ | 20. $\frac{4}{a+4} + \frac{6}{a+4}$ | 21. $\frac{4}{x+3} + \frac{6}{x-2}$ |
| 22. $\frac{6}{7t^3} - \frac{8}{3t}$ | 23. $\frac{3}{2x+6} + \frac{4}{6x+18}$ | 24. $\frac{5}{8a} - \frac{3}{8a}$ |
| 25. $\frac{5}{r^2-4} + \frac{7}{r+2}$ | 26. $\frac{6}{a^2-2} + \frac{9}{a^2-2}$ | 27. $\frac{5x}{4} - \frac{x}{4}$ |
| 28. $\frac{4}{3x+6} - \frac{3}{2x+4}$ | 29. $\frac{4}{c^2+4c+3} + \frac{1}{c+3}$ | 30. $\frac{6}{x^2-3x+2} - \frac{4}{x-2}$ |

31. Brian rode his bike 2 mi to his friend's house. Brian's bike had a flat tire, so he had to walk home. His walking rate is 25% of his biking rate.

- a. Write an expression for the amounts of time Brian spent walking and riding his bike.
- b. If Brian's biking rate is 12 mi/h, how much time did he spend walking and riding his bike?

32. Trudi and Sean are on a river canoeing. Because of the current of the river, their downstream rate is 250% of their upstream rate. They canoe 3 mi upstream and then return to their starting point.

- a. Write an expression for the amount of time Trudi and Sean spend canoeing.
- b. If their upstream rate is 2 mi/h, how much time do Trudi and Sean spend canoeing?
- c. If their upstream rate is 3 mi/h, how much time do Trudi and Sean spend canoeing?