Name _____ Class _____ Date _____

Practice 11-2

Multiplying and Dividing Rational Expressions

Multiply or divide.

1. $\frac{5}{9} \cdot \frac{6}{15}$
2. $\frac{8}{3} \div \frac{16}{27}$
3. $\left(-\frac{3}{4}\right) \div \frac{16}{21}$
4. $\frac{2}{9} \div \left(-\frac{10}{3}\right)$
5. $\frac{18m}{4m^2} \div \frac{9m}{8}$
6. $\frac{8x}{12} \cdot \frac{4x}{6}$
7. $\frac{9}{15x} \cdot \frac{25x}{27}$
8. $\frac{12x^3}{25} \div \frac{16x}{5}$
9. $\frac{6x^3}{18x} \div \frac{9x^2}{10x^4}$
10. $\frac{4r^3}{10} \cdot \frac{25}{16r^2}$
11. $\frac{8n^2}{3} \div \frac{20n}{9}$
12. $\frac{14x^2}{5} \div 7x^4$
13. $\frac{4n^3}{11} \cdot \frac{33n}{36n^2}$
14. $\frac{24r^3}{35r^2} \div \frac{12r}{14r^3}$
15. $\frac{a^2 - 4}{3} \cdot \frac{9}{a + 2}$
16. $\frac{4b - 12}{5b^2} \cdot \frac{6b}{b - 3}$
17. $\frac{2b}{5} \cdot \frac{10}{b^2}$
18. $\frac{2b}{b + 3} \div \frac{b}{b + 3}$
19. $\frac{5y^3}{7} \cdot \frac{14y}{30y^2}$
20. $\frac{4p + 16}{5p} \div \frac{p + 4}{15p^3}$
21. $\frac{3(h + 2)}{h + 3} \div \frac{h + 2}{h + 3}$
22. $\frac{a^3 - a^2}{a^3} \cdot \frac{a^2}{a - 1}$
23. $\frac{h^2 + 6h}{h + 3} \cdot \frac{4h + 12}{h + 6}$
24. $\frac{n^2 - 1}{n + 2} \cdot \frac{n^2 - 4}{n + 1}$
25. $\frac{x^2 - x}{x} \cdot \frac{3x - 6}{3x - 3}$
26. $\frac{5x - 10}{x + 2} \cdot \frac{3}{3x - 6}$
27. $\frac{x^2 - 16}{x - 4} \div \frac{3x + 12}{x}$
28. $\frac{x^2 - 1}{3x - 3} \div \frac{x + 1}{3}$
29. $\frac{x^2 - 2x - 24}{x^2 - 5x - 6} \cdot \frac{x^2 + 5x + 6}{x^2 + 6x + 8}$
30. $\frac{x^2 + 2x - 35}{x^2 + 4x - 21} \cdot \frac{x^2 + 3x - 18}{x^2 + 9x + 18}$
31. $\frac{3x^2 + 14x + 8}{2x^2 + 7x - 4} \cdot \frac{2x^2 + 9x - 5}{3x^2 + 16x + 5}$
32. $\frac{8 + 2x - x^2}{x^2 + 7x + 10} \div \frac{x^2 - 11x + 28}{x^2 - x - 42}$
33. $\frac{x^2 - x - 6}{3x - 9} \cdot \frac{x^2 - 9}{x^2 + 6x + 9}$
34. $\frac{6x^2 + 13x + 6}{4x^2 - 9} \div \frac{6x^2 + x - 2}{4x^2 - 1}$
35. $\frac{x^2 - 2x - 35}{3x^2 + 27x} \div \frac{x^2 + 7x + 10}{6x^2 + 12x}$
36. $\frac{x^2 - x - 6}{2x^2 + 9x + 10} \div \frac{x^2 - 25}{2x^2 + 15x + 25}$
37. $\frac{15 - 14x - 8x^2}{4x^2 + 4x - 15} \div \frac{4x^2 + 13x - 12}{3x^2 + 13x + 4}$
38. $\frac{x^2 - 4x - 32}{x^2 - 8x - 48} \cdot \frac{3x^2 + 17x + 10}{3x^2 - 22x - 16}$
39. $\frac{9x^2 - 16}{6x^2 - 11x + 4} \div \frac{6x^2 + 11x + 4}{8x^2 + 10x + 3}$