5.3

Name _____ Date _____ Period _____

SCORE: /

Multiplying and Dividing Rational Expressions

Simplify each rational expression.

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

2. $\frac{x^2-16}{x^3+64}$

3. $\frac{2}{3x+1} - \frac{5}{x-4}$

Perform the indicated operation.

4. $\frac{8x^2}{9y} \cdot \frac{3y^2}{2x^5}$

5. $\frac{-1x^2}{y^4z^3} \div \frac{6x^2y}{z^2}$

6. $\frac{6y^2}{5x^2} \div \frac{3y^2}{4x^6}$

7. $\frac{x+5}{x-6} \cdot \frac{2x-12}{(x+5)(x-5)}$

8. $\frac{x+2}{x-6} \cdot \frac{3x^2}{(x+2)(x+2)}$

9. $\frac{(x+7)(x-2)}{3x^2(x-2)} \cdot \frac{2x(x+3)}{(x+3)(x+7)}$

10. $\frac{x^2-2x}{x^2-1} \cdot \frac{4x-4}{x^2-4}$

11. $\frac{x^2-2x-24}{4x^2+13x-12} \cdot \frac{8x-6}{x^2-6x}$

12. $\frac{x+4}{x^2-36} \div \frac{4x^2+16x}{x^2-4x-12}$

13. $\frac{x^2-9}{2x-2} \div \frac{x^2-2x-3}{-x+1}$

14. $\frac{(x+2)(x+1)}{-3(x-6)} \div \frac{x^2-1}{(x-6)(x+5)}$

15. $\frac{15x^2+5x-50}{32x^2-18} \div \frac{x^2-5x-14}{4x^2+9x-9} \cdot \frac{6x-42}{3x^2+4x-15}$

Solve.

16. $7-5x=3$

17. $x^2-2x-8=0$