NAME _____ DATE _____ PERIOD _____

8-1 Skills Practice

Multiplying and Dividing Rational Expressions

Simplify each expression.

1. $\frac{21x^3y}{14x^2y^2}$ $\frac{3x}{2y}$

2. $\frac{5ab^3}{25a^2b^2}$ $\frac{b}{5a}$

3. $\frac{(x^6)^3}{(x^3)^4}$ x^6

4. $\frac{8y^2(y^6)^3}{4y^{24}}$ $\frac{2}{y^4}$

5. $\frac{18}{2x-6}$ $\frac{9}{x-3}$

6. $\frac{x^2-4}{(x-2)(x+1)}$ $\frac{x+2}{x+1}$

7. $\frac{3a^2-24a}{3a^2+12a}$ $\frac{a-8}{a+4}$

8. $\frac{3m}{2f}\cdot\frac{f^3}{6}$ $\frac{mf^2}{4}$

9. $\frac{24g^3}{5f^2}\cdot\frac{10(gf)^3}{8g^5f}$ $6g$

10. $\frac{5r^2}{r^2-4}\cdot\frac{r+2}{10r^5}$ $\frac{1}{2r^3(r-2)}$

11. $\frac{7g}{y^2}\div 21g^3$ $\frac{1}{3g^2y^2}$

12. $\frac{80y^4}{49z^5v^7}\div\frac{25y^5}{14z^{12}v^5}$ $\frac{32z^7}{35v^2y}$

13. $\frac{3x^2}{x+2}\div\frac{3x}{x^2-4}$ $x(x-2)$

14. $\frac{q^2+2q}{6q}\div\frac{q^2-4}{3q^2}$ $\frac{q^2}{2(q-2)}$

15. $\frac{w^2-5w-24}{w+1}\cdot\frac{w^2-6w-7}{w+3}$ $(w-8)(w-7)$

16. $\frac{t^2+19t+84}{4t-4}\cdot\frac{2t-2}{t^2+9t+14}$ $\frac{t+12}{2(t+2)}$

17. $\frac{x^2-5x+4}{2x-8}\div(3x^2-3x)$ $\frac{1}{6x}$

18. $\frac{16a^2+40a+25}{3a^2-10a-8}\div\frac{4a+5}{a^2-8a+16}$ $\frac{(4a+5)(a-4)}{3a+2}$

19. $\frac{\frac{c^2y}{2d^2}}{\frac{-c^6}{5d}}$ $-\frac{5y}{2c^4d}$

20. $\frac{\frac{a^2-b^2}{4a}}{\frac{a+b}{2a}}$ $\frac{(a-b)}{2}$

Lesson 8-1