Ch. 6 Practice **Name**_____
Math 90 **Date**_____

1. Divide: $\frac{5x-5}{3x+9} \div \frac{7x-21}{6x+18}$

2. $\frac{x^2+x-6}{x^2+3x-10} \div \frac{x^2-9}{2x^2+11x+5}$

3. Multiply: $\left(x^2+8x+15\right)\left(\frac{x-3}{x+5}\right)$

4. Subtract: $\frac{9}{x^2-81} - \frac{x}{x^2-81}$

5. Solve: $\frac{x}{5} - 3 = -\frac{3}{5}$

6. Solve: $\frac{2}{a-3} = \frac{5}{a-6}$

7. Simplify: $\frac{\frac{a^2}{a-3}}{\frac{2a}{a^2-9}}$

8. Simplify: $\frac{1-\frac{1}{x-3}}{1-\frac{6}{x+2}}$

9. Simplify: $\frac{1-\frac{16}{x^2}}{1-\frac{8}{x}+\frac{16}{x^2}}$

10. Reduce to lowest term and specify any restrictions on the variable: $\frac{12}{3x^2-36x+108}$

11. Reduce to lowest terms: $\frac{x^2-10x+25}{x^2-2x-15}$

12. Reduce: $\frac{ax-3x+3a-9}{ay-3y+2a-6}$

13. Multiply: $\frac{x^2+2x+1}{x^2-x-6} \cdot \frac{x^2-6x+9}{x^2-2x-3}$

14. Add: $\frac{x^2-5x}{x-3} + \frac{4x-6}{x-3}$

15. Add: $\frac{-3}{y^2-2y-8} + \frac{4}{y^2-16}$

16. Perform the indicated operations: $\frac{x}{5x+10} + \frac{1}{x} - \frac{2}{x^2+2x}$

17. Solve: $\frac{6}{x} + x = 7$

18. Solve: $\frac{4}{2x^2+9x-5} = \frac{1}{x+5} - \frac{1}{2x-1}$

Answers

1. $\frac{10(x-1)}{7(x-3)}$ **2.** $\frac{2x+1}{x-3}$ **3.** (x + 3)(x – 3) **4.** $-\frac{1}{x+9}$ **5.** 12 **6.** 1

7. $\frac{a^2+3a}{2}$ **8.** $\frac{x+2}{x-3}$ **9.** $\frac{x+4}{x-4}$ **10.** $\frac{4}{(x-6)^2}, x \neq 6$ **11.** $\frac{x-5}{x+3}$ **12.** $\frac{x+3}{y+2}$

13. $\frac{x+1}{x+2}$ **14.** x + 2 **15.** $\frac{1}{(y+2)(y+4)}$ **16.** $\frac{x+5}{5(x+2)}$ **17.** 6, 1 **18.** 10