Chapter 8 Test Review **Math 100**

Simplify the expression. Show all your work. Circle your answers.

1. $\dfrac{6x^3y^2 - 12x^2y^2}{3x^4y - 6x^3y}$

2. $\dfrac{2x^2 - 10x}{x^2 - 10x + 25}$

3. $\dfrac{2x^2 - 10x + 12}{2x^2 - 6x}$

4. $\dfrac{9 - x^2}{5x^2 + 15x}$

5. $\dfrac{4x^2 - 8x}{2x^2 - 5x + 2}$

6. $\dfrac{3x^2 - 13x + 4}{6x^2 + 7x - 3}$

Perform the indicated operation and simplify the result. Circle your answers.

7. $\dfrac{15x^3y^3}{6x^5} \bullet \dfrac{9y^4}{12xy^2}$

8. $\dfrac{14x^2y^6}{2x^2-4x} \div \dfrac{21x^5y^2}{x^2-4}$

9. $\dfrac{x^3-6x^2}{4x^2-6x} \bullet \dfrac{4x^2-9}{x^2-4x-12}$

10. $\dfrac{3x^2-12}{x^2+6x+8} \div \dfrac{x^2-4x+4}{2x^2+8x}$

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

12. $\frac{x}{x^2-3x} - \frac{5}{2x-6}$

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

14. $\frac{4}{3x-9} + \frac{2}{x^2-9}$

15. $\frac{3}{x^2+6x+5} + \frac{2}{x^2+3x+2}$

16. $\frac{2}{x^2+3x-18} - \frac{3}{x-3}$ watch the negative

17. $\frac{x+2}{6x-3} - \frac{x-1}{8x-4}$ watch the negative

18. $\frac{3}{x^2-16} - \frac{3}{x^2-4x}$ watch the negative

Solve for x.

19. $\frac{3}{x} + \frac{1}{3} = \frac{5}{x}$

20. $\frac{4}{x} + \frac{5}{4} = \frac{x+2}{2x}$

21. $4 - \frac{8x}{x+1} = \frac{8}{x+1}$

22. $\frac{x-3}{3x} + \frac{1}{2} = \frac{3}{2x}$

23. $\frac{1}{x-1} + \frac{2}{x+1} = \frac{1}{x^2-1}$

24. $\frac{-2}{x-5} = \frac{3x+10}{x^2-25}$

Chapter 8 Test Review Answers

1. $\frac{2y}{x}$ 2. $\frac{2x}{(x-5)}$ 3. $\frac{(x-2)}{x}$ 4. $\frac{-(x-3)}{5x}$ 5. $\frac{4x}{(2x-1)}$

6. $\frac{(x-4)}{(2x+3)}$ 7. $\frac{15y^5}{8x^3}$ 8. $\frac{y^4(x+2)}{3x^4}$ 9. $\frac{x(2x+3)}{2(x+2)}$ 10. $\frac{6x}{(x-2)}$

11. $\frac{4x-3}{x(x-2)}$ 12. $\frac{-3}{2(x-3)}$ 13. $\frac{-2x+5}{x(x-2)}$ 14. $\frac{4x+18}{3(x-3)(x+3)}$

15. $\frac{5x+16}{(x+1)(x+5)(x+2)}$ 16. $\frac{-3x-16}{(x+6)(x-3)}$

17. $\frac{x+11}{12(2x-1)}$ 18. $\frac{-12}{x(x+4)(x-4)}$ 19. $x=6$ 20. $x=-4$ 21. NS or $\varnothing$

22. $x=3$ 23. $x=\frac{2}{3}$ 24. $x=-4$