

Algebra II  
Review 1 - Chapter 8

Name: \_\_\_\_\_  
Date: \_\_\_\_\_ Block: \_\_\_\_\_

1.	State the domain and range of the function: $y = \frac{4}{x-3}$
2.	State the domain and range of the function: $y = \frac{1}{x+5} + 2$
3.	State the domain and range of the function: $y = \frac{3x-2}{x-4}$
4.	What is (are) the x-intercept(s) of the function: $y = \frac{2x^2}{x+2}$ ?
5.	What is (are) the x-intercept(s) of the function: $y = \frac{x^2-1}{x+2}$ ?
6.	What is (are) the x-intercept(s) of the function: $y = \frac{x^2-x-12}{x^2+2}$ ?
7.	What is (are) the asymptotes(s) of the function: $y = \frac{x^2-x+12}{x^2-25}$ ?
8.	What is (are) the asymptotes(s) of the function: $y = \frac{x^2-2x+15}{x+2}$ ?
9.	What is (are) the asymptotes(s) of the function: $y = \frac{x-1}{x^2+8x+12}$ ?
10.	Perform the indicated operation. Simplify the result. $\frac{80x^4}{y^3} \cdot \frac{xy}{20x^2}$
11.	Perform the indicated operation. Simplify the result. $\frac{x-3}{2x-8} \cdot \frac{6x^2-96}{x^2-9}$

12.	Perform the indicated operation. Simplify the result. $\frac{2x^2 - x - 10}{x + 2} \bullet \frac{3x^2}{2x^2 - 5x}$
13.	Perform the indicated operation. Simplify the result. $\frac{5x^2y^3}{x^7} \div \frac{30xy^4}{y^3}$
14.	Perform the indicated operation. Simplify the result. $\frac{8x^2y^2z}{xz^3} \div \frac{10xy}{x^4z}$
15.	Perform the indicated operation. Simplify the result. $\frac{x^2 - 6x - 27}{2x^2 + 2x} \div \frac{x^2 - 14x + 45}{x^2}$
16.	Perform the indicated operation. Simplify the result. $\frac{x}{x^2 - x - 12} + \frac{5}{12x - 48}$
17.	Perform the indicated operation. Simplify the result. $\frac{x + 1}{x^2 + 4x + 4} - \frac{6}{x^2 - 4}$
18.	Perform the indicated operation. Simplify the result. $\frac{9}{x - 3} + \frac{2x}{x + 1}$
19.	Perform the indicated operation. Simplify the result. $\frac{15}{4x} + \frac{5}{4x}$
20.	Perform the indicated operation. Simplify the result. $\frac{2x}{x + 4} - \frac{x^2 + 4}{x^2 - 16}$
21.	Perform the indicated operation. Simplify the result. $\frac{x^2 + 5x - 36}{x^2 - 49} \bullet (x^2 - 11x + 28)$
22.	Perform the indicated operation. Simplify the result. $\frac{x^2 - 4x - 5}{x + 5} \div (x^2 + 6x + 5)$
23.	Perform the indicated operation. Simplify the result. $\frac{3x^2 + 13x + 4}{x^2 - 4} \div \frac{4x + 16}{x + 2}$

## Short Review 1 - Chapter 8 Answers

1. domain: $\mathbb{R}; x \neq 3$ range: $\mathbb{R}; y \neq 0$	2. domain: $\mathbb{R}; x \neq -5$ range: $\mathbb{R}; y \neq 2$	3. domain: $\mathbb{R}; x \neq 4$ range: $\mathbb{R}; y \neq 3$
4. $x = 0$	5. $x = \pm 1$	6. $x = -3, x = 4$
7. $x = \pm 5, y = 1$	8. $x = -2$	9. $x = -6, x = -2, y = 0$
10. $\frac{4x^3}{y^2}$	11. $\frac{3(x+4)}{x+3}$	12. $3x$
13. $\frac{y^2}{6x^5}$	14. $\frac{4x^4y}{5z}$	15. $\frac{x(x+3)}{2(x+1)(x-5)}$
16. $\frac{17x+15}{12(x-4)(x+3)}$	17. $\frac{x^2-7x-4}{(x-2)(x+2)^2}$	18. $\frac{2x^2+3x+9}{(x+1)(x-3)}$
19. $\frac{5}{x}$	20. $\frac{x^2-8x-4}{(x+4)(x-4)}$	21. $\frac{(x+9)(x-4)^2}{(x+7)}$
22. $\frac{(x-5)}{(x+5)^2}$	23. $\frac{3x+1}{4(x-2)}$	