

Algebra II **Non-Calculator**
REVIEW 8.1-8.6

Name: _____
Date: _____ Block: _____

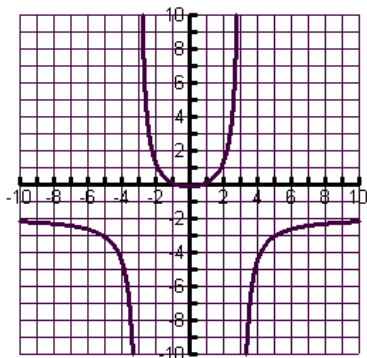
1.	Which equation represents inverse variation? a.) $xy = 3$ b.) $y = 3 + x$ c.) $\frac{y}{3} = x$ d.) $y = 3x$
2.	If y varies directly with x and $y = -20$ when $x = 5$, what is the value of y when $x = -3$? a.) -12 b.) 12 c.) 15 d.) -15
3.	Let n vary directly with the square of m and inversely with p . Which equation represents this relationship? a.) $n = amp$ b.) $n = \frac{am^2}{p}$ c.) $n = \frac{ap}{m^2}$ d.) $n = \frac{a}{m^2p}$
4.	Which function has the domain of all real numbers except -5 ? a.) $y = \frac{x-5}{x-5}$ b.) $y = \frac{x^2}{x-5}$ c.) $y = \frac{x}{x-5}$ d.) $y = \frac{x-5}{x+5}$
5.	What are the asymptotes of the function $y = \frac{3x^2 + 4x + 1}{x^2 - 4}$? a.) $x = 0, y = 0$ b.) $x = 3, y = 4$ c.) $x = 0, x = 2, y = 3$ d.) $x = -2, x = 2, y = 3$
6.	Which expression is the product of $\frac{16a^2b}{11abc} \cdot \frac{22a^3c^2}{4b^3c^2}$? a.) $\frac{8a^4}{b^3}$ b.) $8a^4b^3c$ c.) $\frac{8a^4}{b^3c}$ d.) $\frac{a^4c}{8b^3}$
7.	What is the simplified form of $\frac{2x^2 - 9x - 5}{x^2 - 4x - 5}$? a.) $\frac{2x-1}{x-1}$ b.) $\frac{2x-1}{x+1}$ c.) $\frac{2x+1}{x+1}$ d.) $\frac{2x+1}{x-1}$

8.	What is the simplified form of $\frac{24x^7y^3}{2y^2} \cdot \frac{xy^4}{3x^3y^2}$?
9.	Perform the indicated operation and simplify: $\frac{x^2 - 2x - 3}{x^2 - 6x + 9} \div \frac{5x + 5}{x + 3}$
10.	The variable y varies jointly with x and z and inversely with the square of w . Which equation relates $y, x, z,$ and w ? a.) $y = axzw^2$ b.) $y = \frac{1}{axzw^2}$ c.) $y = \frac{axz}{w^2}$ d.) $y = \frac{aw^2}{xz}$
11.	What are the asymptotes of the graph $y = \frac{3}{x + 5}$?
12.	Perform the indicated operation and simplify: $\frac{x + 1}{x^2 + 6x + 9} - \frac{2}{x^2 - 9}$
13.	State the domain and range of the function $y = \frac{2}{x + 3} - 5$. a.) domain: all real numbers except 3, range: all real numbers except 5 b.) domain: all real numbers except 3, range: all real numbers except -5 c.) domain: all real numbers except -3, range: all real numbers except 5 d.) domain: all real numbers except -3, range: all real numbers except -5
14.	Perform the indicated operation and simplify: $\frac{12x^2y}{9x^3y} \cdot \frac{18y^5}{24xy^3}$
15.	Perform the indicated operation and simplify: $\frac{3}{x - 1} + \frac{4}{x + 2}$
16.	Solve: $\frac{2x}{25} = \frac{2}{x}$

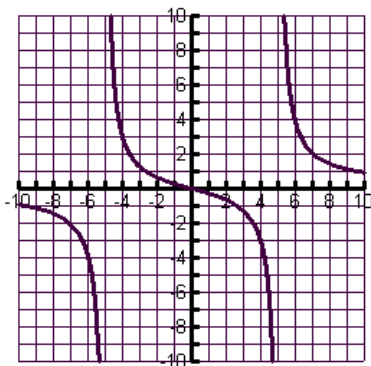
17.	Solve: $\frac{3}{x} = \frac{2}{x+6}$	
18.	Solve: $\frac{x+1}{x-2} = \frac{x-3}{x}$	
19.	Solve: $\frac{x-1}{x+6} = \frac{x-1}{2x-1}$	
20.	Solve: $\frac{x+7}{x-3} = 3$	
21.	Perform the indicated operation and simplify: $\frac{x^2-2x-15}{x^2-6x+5} \bullet x^2-10x+9$	
22.	Perform the indicated operation and simplify: $\frac{3x+21}{6x-18} \div \frac{x^2+6x-7}{x^2-3x}$	
23.	Perform the indicated operation and simplify: $\frac{x-1}{2x-14} \bullet \frac{3x^2-21x}{x^2-1}$	
24.	Simplify: $\frac{\frac{5}{x+3}}{\frac{2}{x+3} + \frac{3}{x}}$	25. Simplify: $\frac{15 - \frac{2}{x}}{\frac{x}{5} + 4}$

Match the graph with its function.

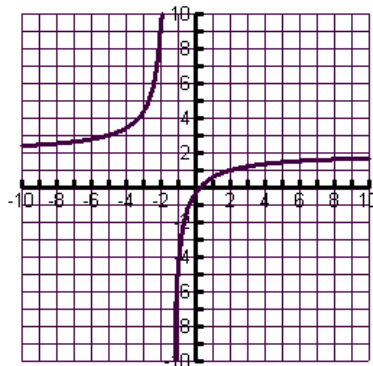
A.)



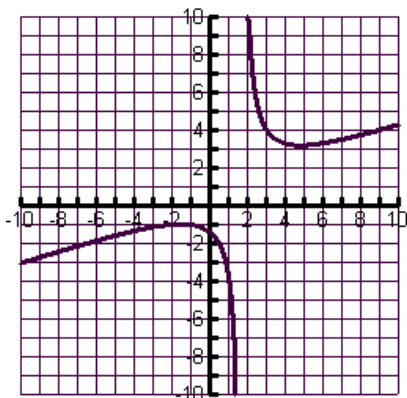
B.)



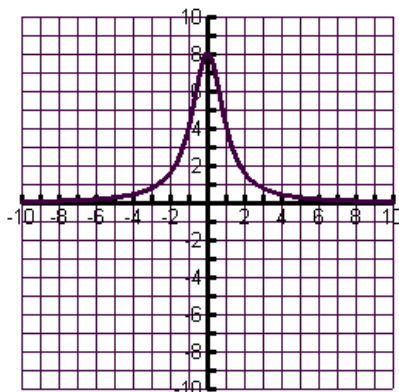
C.)



D.)



E.)



26. _____ $y = \frac{-2x^2 + 1}{x^2 - 9}$

27. _____ $y = \frac{x^2 + 7}{3x - 5}$

28. _____ $y = \frac{4x - 1}{2x + 3}$

29. _____ $y = \frac{7x}{x^2 - 25}$

30. _____ $y = \frac{8}{x^2 + 1}$

Review Chapter 8 Answers

1. A	2. B	3. B
4. D	5. D	6. C
7. C	8. $4x^5y^3$	9. $\frac{x+3}{5(x-3)}$
10. C	11. $x = -5, y = 0$	12. $\frac{x^2 - 4x - 9}{(x-3)(x+3)^2}$
13. D	14. $\frac{y^2}{x^2}$	15. $\frac{7x+2}{(x-1)(x+2)}$
16. $x = \pm 5$	17. $x = -18$	18. $x = 1$
19. $x = 1, x = 7$	20. $x = 8$	21. $(x+3)(x-9)$
22. $\frac{x}{2(x-1)}$	23. $\frac{3x}{2(x+1)}$	24. $\frac{5x}{5x+9}$
25. $\frac{5(15x-2)}{x(x+20)}$	26. A	27. D
28. C	29. B	30. E