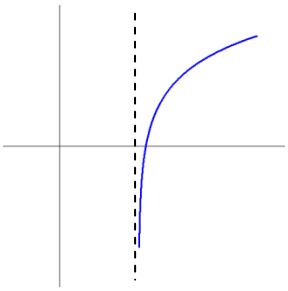
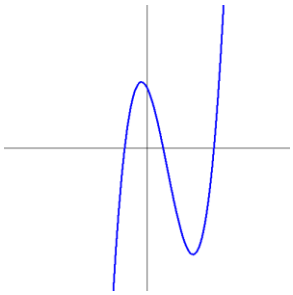
Pre-Calculus
Families of Graphs Review

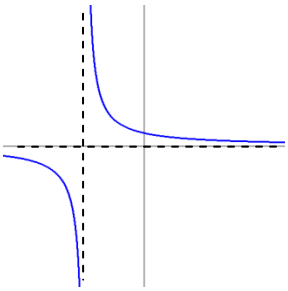
Part I – No Calculator



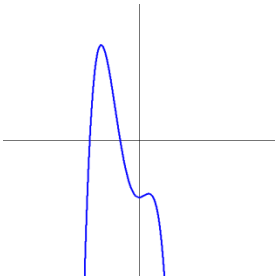
Graph A



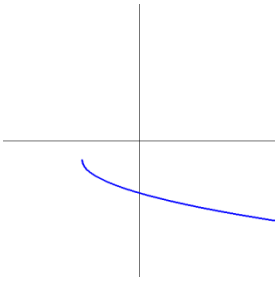
Graph B



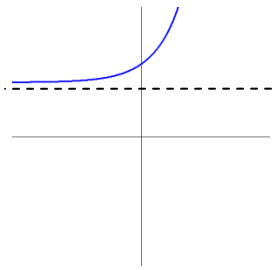
Graph C



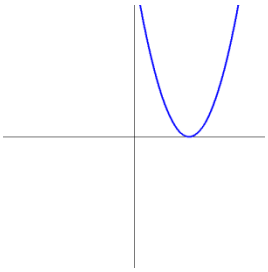
Graph D



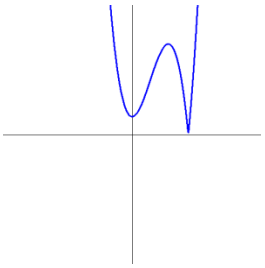
Graph E



Graph F



Graph G



Graph H

1. Which graph represents a quadratic function?

   A. Graph D B. Graph E C. Graph F D. Graph G E. Graph H

2. Which graph represents an exponential function?

   A. Graph A B. Graph C C. Graph E D. Graph F E. Graph H

3. Which graph represents a reciprocal function?

   A. Graph A B. Graph C C. Graph F D. Graph G E. Graph H

4. Which graph represents an absolute value function?

   A. Graph A B. Graph B C. Graph C D. Graph D E. Graph H

5. Which of the graphs have a POSITIVE x-intercept? Circle ALL correct answers.

   A. Graph A B. Graph B C. Graph C D. Graph D E. Graph E

   F. Graph F G. Graph G H. Graph H

6. Which of the graphs have a lead coefficient (first number) which is negative? Circle ALL correct answers

   A. Graph A B. Graph B C. Graph C D. Graph D E. Graph E

   F. Graph F G. Graph G H. Graph H

7. Which of the graphs do NOT have a domain of $(-\infty, \infty)$? Circle ALL correct answers

   A. Graph A B. Graph B C. Graph C D. Graph D E. Graph E

   F. Graph F G. Graph G H. Graph H

8 Which of the graphs do NOT have a range of $(-\infty, \infty)$? Circle ALL correct answers

A. Graph A B. Graph B C. Graph C D. Graph D E. Graph E

F. Graph F G. Graph G H. Graph H

9. Which of the following could be the equation of graph A?

A. $f(x) = \ln x$ B. $f(x) = e^{x+2}$ C. $f(x) = e^{x+2} - 4$

D. $f(x) = 2\ln(x+4) + 2$ E. $f(x) = 2\ln(x-4) + 2$

10. Which of the following could be the equation of graph B?

A. $f(x) = -x^3 + 3x^2 - 2x + 3$ B. $f(x) = x^3 + 3x^2 - 2x - 3$ C. $f(x) = x^3 - 3x^2 - 2x + 3$

D. $f(x) = -x^3 + 3x^2 - 2x - 3$ E. $f(x) = -x^4 + 3x^2 - 2x - 3$

11. Which of the following could be the equation of graph C?

A. $f(x) = \frac{2}{x} + 3$ B. $f(x) = 2\ln 3x$ C. $f(x) = \frac{-2}{x-3}$

D. $f(x) = \frac{2}{x-3}$ E. $f(x) = \frac{2}{x+3}$

12. Which of the following could be the equation of graph D?

A. $f(x) = -x^4 - 2x^3 + 2x^2 - 3$ B.. $f(x) = x^4 - 2x^3 + 2x^2 - 3$ C. $f(x) = -2x^3 + 2x^2 - 3$

D. $f(x) = -2x^3 + 2x^2 + 3$ E. $f(x) = -x^2 - 7x + 11$

13. Which of the following could be the equation of graph E?

A. $f(x) = \frac{-2}{x+3} - 2$ B. $f(x) = -(x+3)^2 - 2$ C. $f(x) = -x^3 - 2x - 2$

D. $f(x) = -\sqrt{x+3} - 2$ E. $f(x) = 2x + 3$

14. Which of the following could be the equation of graph F?

A. $f(x) = \frac{2}{x} + 3$ B. $f(x) = -2^x + 3$ C. $f(x) = 2^x + 3$

D. $f(x) = \frac{2}{x} - 3$ E. $f(x) = 2^x$

15. Which of the following could be the equation of graph G?

A. $f(x) = x^2 + 6x + 9$ B. $f(x) = x^2 + 6x + 10$ C. $f(x) = x^2 - 6x + 9$

D. $f(x) = x^2 - 6x + 10$ E. $f(x) = |x^3 - 3x|$

16. Which of the following could be the equation of graph H?

A. $f(x) = |x^3 - 3x^2| + 7$ B. $f(x) = |x^3 - 3x^2| - 7$ C. $f(x) = -|x^3 - 3x^2| - 1$

D. $f(x) = |x^3 - 3x^2 - 1|$ E. $f(x) = |x^4 - 3x^2 - 1|$

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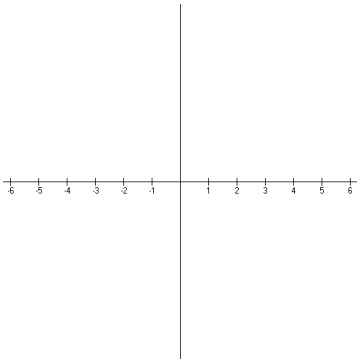
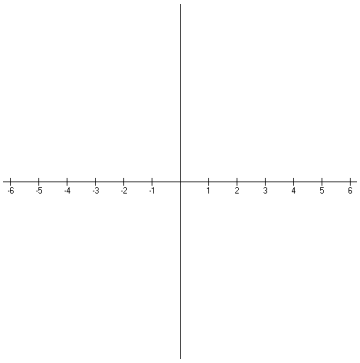
SKETCH a graph of each function below:

Part II – Calculator Required

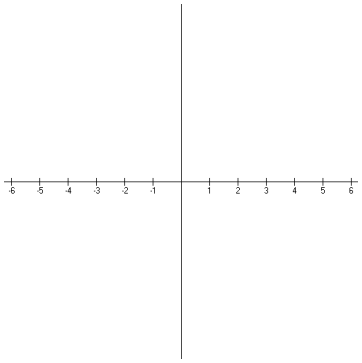
17. $f(x)=(x+1)(x-2)(x-4)$



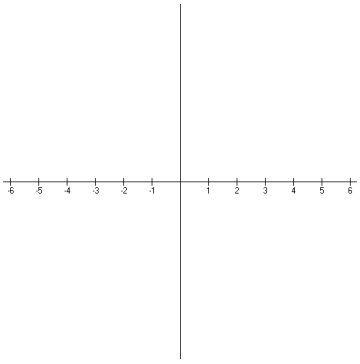
18. $f(x)=\ln(x-2)$



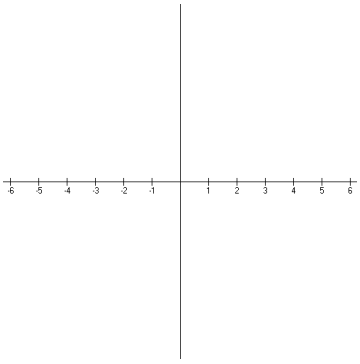
19. $f(x)=-(x+2)(x-1)(x+3)(x+1)$



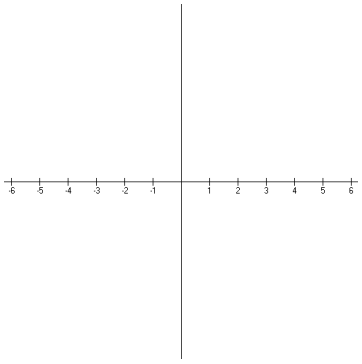
20. $f(x)=\left|(x-2)(x+2)\right|$



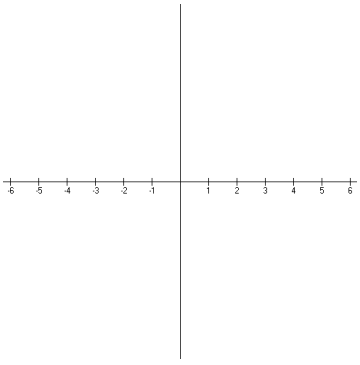
21. $f(x)=2^x-2$



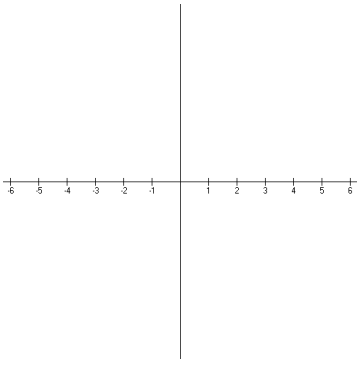
22. $f(x)=\dfrac{-2}{x+3}+1$



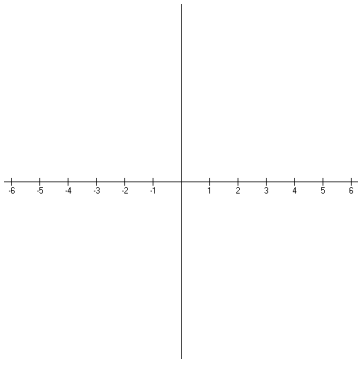
23. $f(x)=-(x+1)(x-2)$



24. $f(x)=\sqrt{x+3}-2$



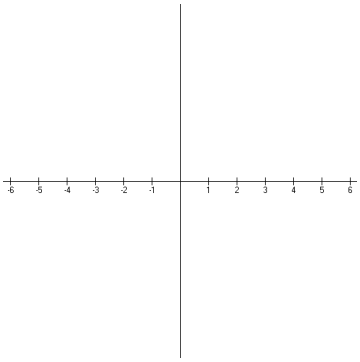
25. $f(x)=3x-2$



26. $f(x)=\dfrac{2}{x}$

27. $f(x)=(x)(x-1)(x+2)(x+3)$

28. $f(x)=-\left(\dfrac{1}{2}\right)^x$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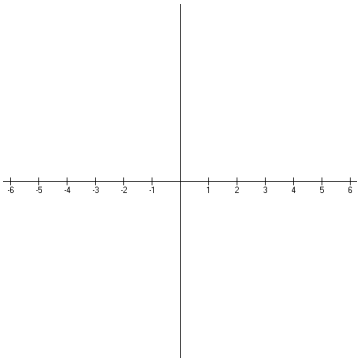
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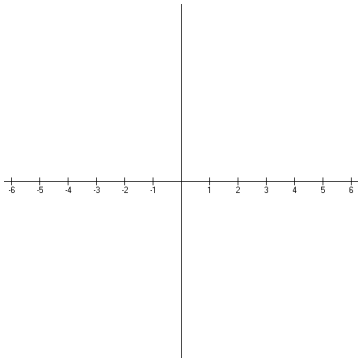
-6 -5 -4 -3 -2 -1 1 2 3 4 5 6