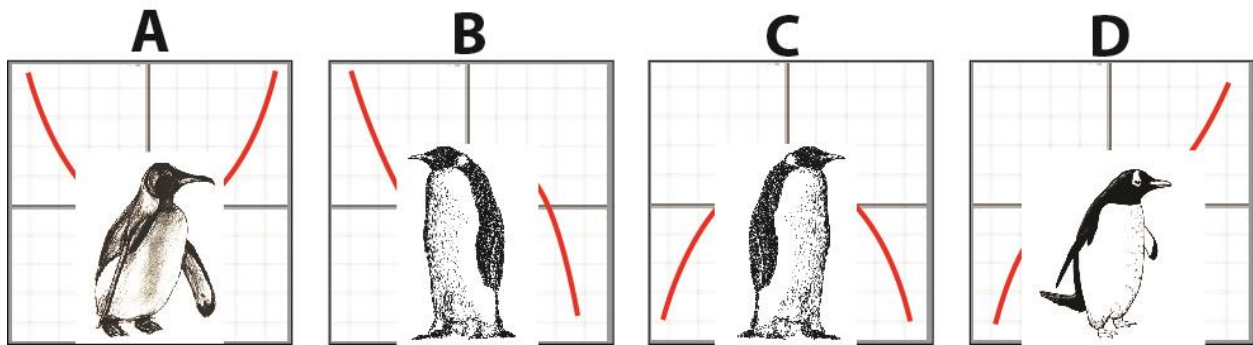


Functions F6 – Graphing Polynomials



The penguins are standing in front of the graphs.

Based on end behavior, which graph would match the following polynomials?

- | | |
|-----------------------------------|-------------------------------------------|
| 1. $x^5 - 3x^4 + 2x^2 + 1$ | 2. $x^6 - 3x^4 + 2x^2 + 1$ |
| 3. $-3x^4 + 2x^2 + 1$ | 4. $7x^5 - 3x^3 + 2x$ |
| 5. $-x^4 - 3x^3 + 7x^2 + 1$ | 6. $x^{18} - 5x^{14} + 7x^2 + 1$ |
| 7. $-x^5 + 13x^4 - 6x^2 - 9x + 1$ | 8. $16x^{13} + 12x^{11} - 6x^{16} - 2x^8$ |

Which of the above polynomials are even? _____

Which of the above polynomials are odd? _____

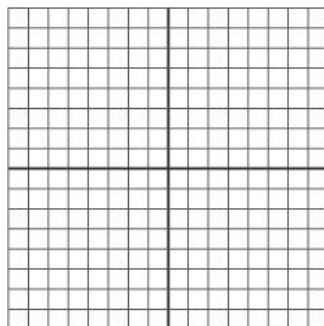
Find the x-intercept and y-intercept of the following:

- | | | |
|-----------------|------------------|-------------------|
| 9. $y = 2x + 4$ | 10. $y = 3 - 2x$ | 11. $y = x^2 - 9$ |
|-----------------|------------------|-------------------|

For the following quadratic polynomials, find:

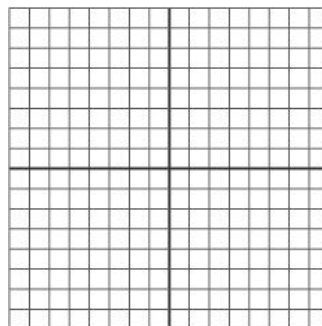
a) the y-intercept, b) the x-intercept(s) or zeros, c) the maximum or minimum, d) whether the graph opens up or down, then e) graph the function.

12. $y = x^2 - 1$



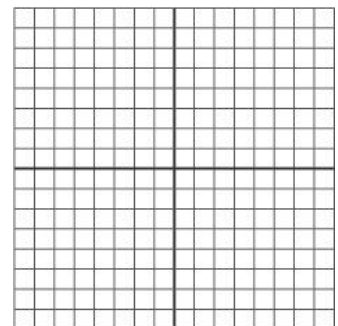
- a)
- b)
- c)
- d)

13. $y = x^2 + 5x + 6$



- a)
- b)
- c)
- d)

14. $y = x^2 - 3x - 4$



- a)
- b)
- c)
- d)