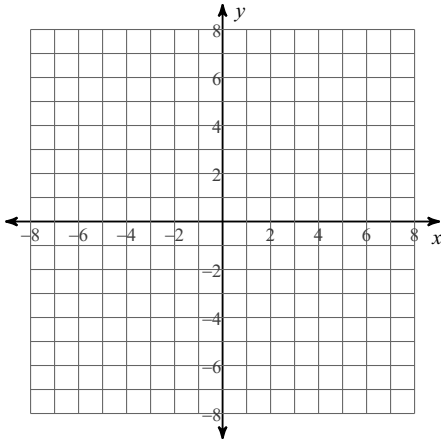


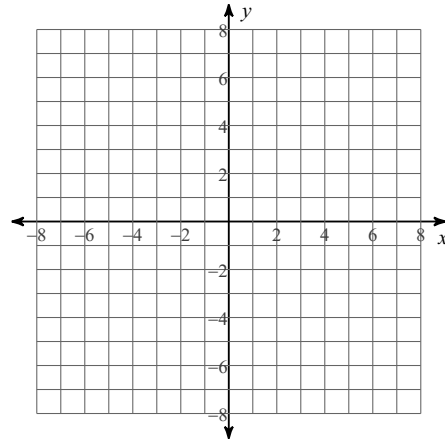
Practice - Graphs max min xint, EB, intersections, polynomial operations

Sketch the graph of each function. Find the relative maximum/s and relative minimum/s for the graph.

1)  $f(x) = x^4 - x^3 - 3x^2$

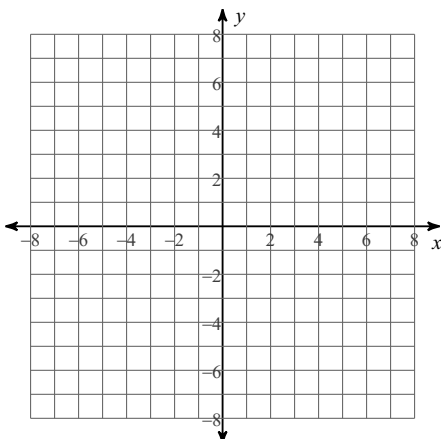


2)  $f(x) = x^3 - 4x^2 + 2$

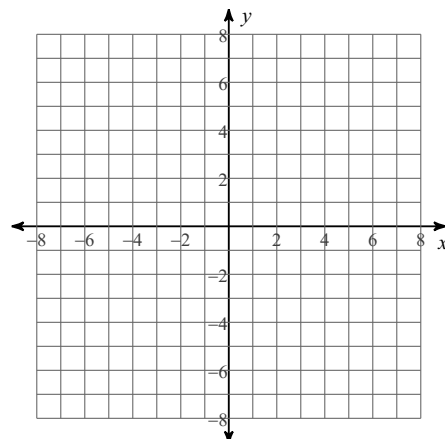


Sketch the graph of each function. Find the zero/s and relative minimum/s for the graph.

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

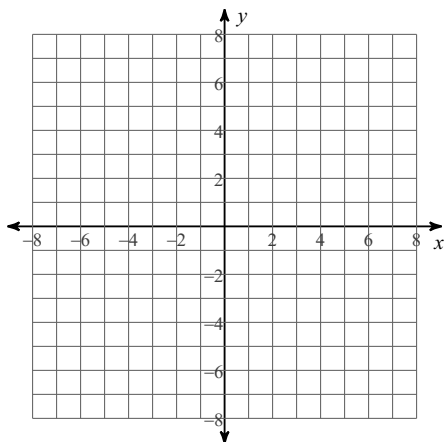


4)  $f(x) = 2x^2 + 4x - 2$

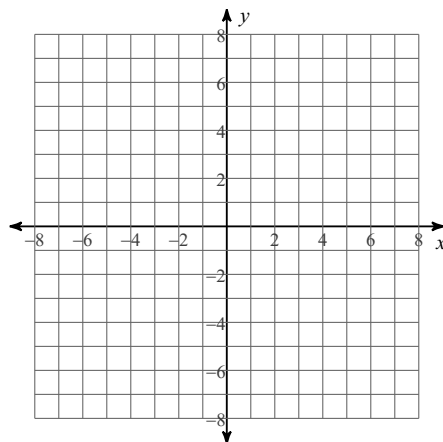


Sketch the graph of each function. Find the relative maximum/s and zero/s for the graph.

5)  $f(x) = x^3 - 3x^2 + 3$



6)  $f(x) = x^2 - 6x + 5$



Describe the end behavior of each function. Use the correct notation for EB.

7)  $f(x) = x^4 - 2x^2 - 2x$

8)  $f(x) = -x^2 - 6x - 7$

9)  $f(x) = x^2 + 2x - 5$

10)  $f(x) = -x^3 - 6x^2 - 9x + 1$

Simplify each expression.

11)  $-5x^2 + 5x^3 + 2 - 8x^3 - x^2 - 8$

12)  $n^4 - 4 - 5n^3 + 7n^3 - 3n^4 - 2$

13)  $(b^3 - 3b^2 + 7b^4) - (7b^2 - b^3 - 2b^4 - b)$

14)  $(7 + 6m - 4m^2 + 6m^4) + (5m^2 + 7m)$

Use multiplication to write the factors of a polynomial in Standard Form.

15)  $(x^2 - 5)(3x^2 + 1) = 0$

16)  $x(x^2 - 12x - 4) = 0$

$$17) (x + 1)(2x + 1) = 0$$

$$18) x^2(3x - 4)(x - 5) = 0$$

**Divide using any division method for polynomials.**

$$19) (b^4 + 11b^3 + 15b^2 - 28b - 6) \div (b + 9)$$

$$20) (3r^2 + 2r + 5) \div (r - 1)$$

$$21) (v^3 - 2v^2 - 50v - 5) \div (v + 6)$$

$$22) (5p^2 - 41p - 100) \div (p - 10)$$

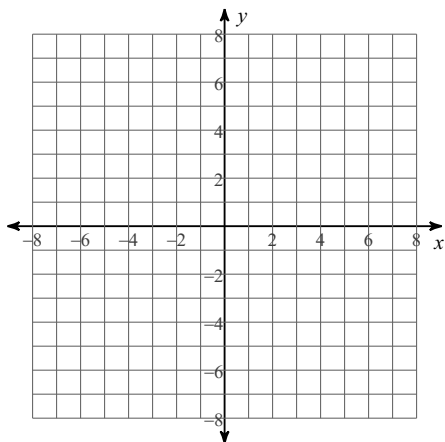
**Given the following zeros, write the polynomial equations in Standard Form.**

$$23) -2, 3, -4$$

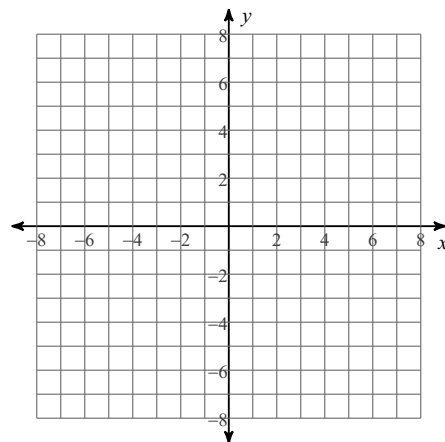
$$24) -1, -\frac{2}{5}, 2$$

**Sketch the given polynomial and  $y = (x - 2)^2 + 1$ . State the intersection/s of the graphs.**

$$25) f(x) = x^2 - 4x - 1$$

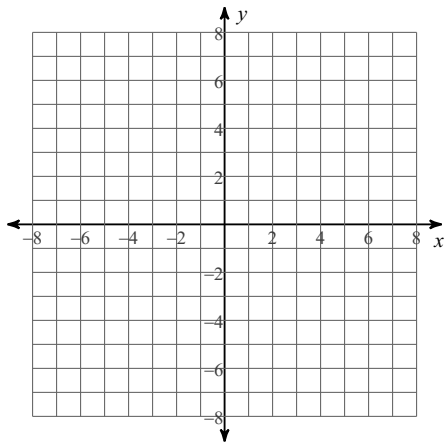


$$26) f(x) = -x^4 + x^3 + 3x^2 - 3$$

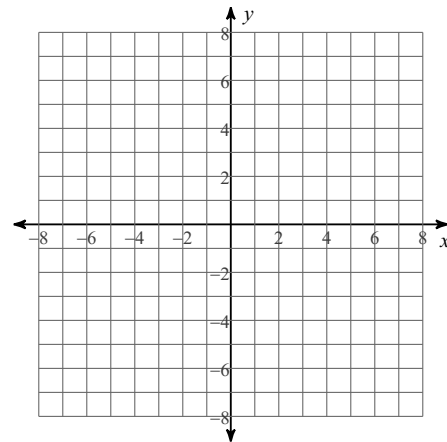


Sketch the given polynomial and  $y = -x - 2$ . State the intersection/s of the graphs.

27)  $f(x) = -x^4 + 3x^2 + 2$

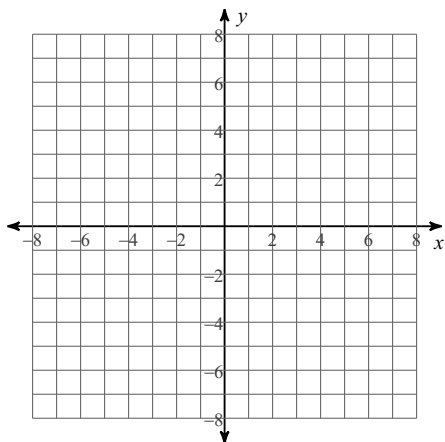


28)  $f(x) = x^2 - 2x - 3$



Sketch the given polynomial and  $y = (x - 1)^2 + 5$ . State the intersection/s of the graphs.

29)  $f(x) = x^4 - 2x^2 - 2x + 2$



30)  $f(x) = x^3 - 3x^2 + 2$

