#18 the given graphs are the graphs of inverse functions:

every point (x, y) on the graph of $f(x)$ is a point (y, x) on the graph of $g(x)$

#19 no, it is not, because a polynomial function can be written in the form

$$f(x) = a_n x^n + a_{n-1} x^{n-1} + \ldots + a_2 x^2 + a_1 x + a_0$$

where n is integer value and $n \geq 0$.

The expression we are given, $\frac{x^2 - x - 12}{x^2 + 2x - 8}$ cannot be re-written in the form above.

#20 $$f(x) = 7x^{12} - \frac{\sqrt{5}}{2} x^{15} + \sqrt{9}\, x^{10} - 9$$

re-write in decreasing powers of x:

$$f(x) = -\frac{\sqrt{5}}{2} x^{15} + 7x^{12} + \sqrt{9}\, x^{10} - 9$$

leading term — degree of $f(x)$

leading coefficient