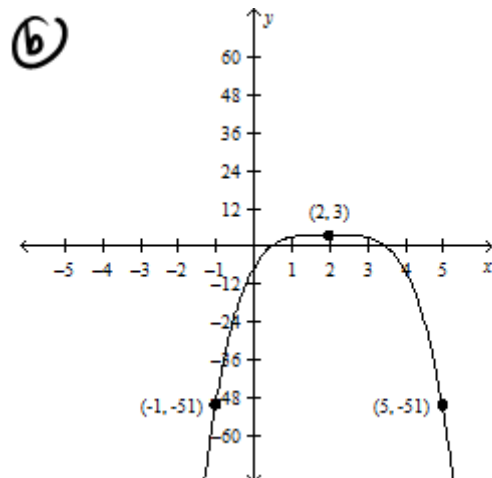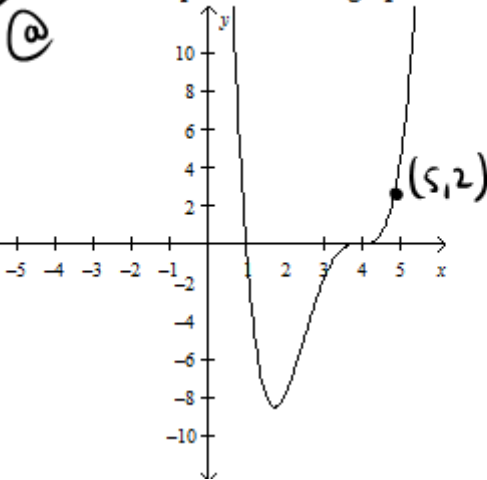# Review

used 2009-3

(1.) Factor the polynomial $x^3 + 6x^2 - 19x - 24$ using the factor theorem. *+ synthetic division*

(2.) Factor $27a^3b^3 + 1728c^3$.

(3.) Show the **long** division method

$$(50k^3 + 10k^2 - 35k - 7) \div (5k - 4)$$

(4.) Use comparing coeficients method to find the divisor

dividend: $x^3 + x^2 + 7x - 7$, quotient: $x^2 + 3x + 13$, remainder: 19

(5.) What is the equation of the graph shown below?

@

$(5,2)$

(b)

$(2, 3)$

$(-1, -51)$ $(5, -51)$

(6.) The polynomial $18x^3 + mx^2 + 19x - 2$ has factors $3x - 1$ and $-2x + 4$. Determine the value of m.

(7.) The area of a rectangular garden is $(+3x^3 + 6x^2 + x + 2)$ m^2. The garden is $(x + 2)$ m long. How wide is the garden?

(8.) Sketch

@ $g(x) = -3x^4 + x^3 - 9x^2 + 2x - 3 \rightarrow$ make a list of zeros + t.p

(b) $f(x) = 0.3(1 - 2x)^3 (x + 3)^6$