Revision worksheet on Polynomials

01. Give an example of a monomial and a binomial having degrees as 82 and 99 respectively.
02. Compute the value of x in $9x^2 = 72$.
03. Find the value of the polynomial $5x^3 – 4x^2 + 3$ at x = 2 and x = –1.
04. Find the zero of the polynomial $p(x) = 3x + 7$.
05. Find the value of m, for which the polynomial $2x^3 – 4mx^2 + 2x + 1$ has ½ as its zero.
06. Find the remainder when $p(x) = 3x^3 – 4x^2 – 3x – 1$ is divided by (x – 1).
07. Check whether the polynomial $p(s) = 3s^3 + s^2 – 20s + 12$ is a multiple of (3s – 2).
08. Verify that (x – 1), (x – 2) and (2x +1) are the factors of the polynomial $2x^3 – 5x^2 + x + 2$.
09. Factorise $81 -- 25y^2$, $3xy – 243xy^5$.
10. Factorise $16\sqrt{5}x^2 – 50x + 5\sqrt{5}$, $x^2 + x – 12$.
11. Expand $(2x – y/3)^3$, $(x – y/2 + 3/z)^2$.
12. Calculate the perimeter of a rectangle whose area is $25x^2 – 35x + 12$.
13. Factorise: $9a^2 + 12ab$.
14. If a = 2 – p, prove that $p^3 + 6pa + a^3 – 8 = 0$.
15. Factorise: 1 + a + b – c + a b – b c – c a – a b c
16. Expand: $(4p + 5q)^3$.
17. Factorise: $100 – 9a^2$.
18. Compute the value of $9x^2 + 4y^2$ if x y = 6 and 3x + 2y = 1.

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