Polynomials : Worksheet -4

1. Which of the following expression is a polynomial? [ ]

a] $3\sqrt{z} + 4z + 5z^2$ b] $\sqrt{ax} + x^2 - x^3$

c] $\sqrt{a}\, x^{1/2} + a x + 9x^2 + 5$ d] $3z^3 - \sqrt{5}z + 9$

2. Degree of the polynomial $(y^3 - 2)(y^3 + 11)$ is [ ]

a] 1 b] 2 c] 3 d] 6

3. If $f(x)$ is a polynomial of degree 2009, and let m be the degree of the polynomial $f(1-x) + f(x)$, then [ ]

a] m = 2009 b] m = 2008 c] m = 2010 d] None of these

4. Given $f(x) = ax^2 + 2bx + 4c$ and $g(x) = (a+2010)x^2 + (b+2010)x + (c+2010)$ (where $a \neq 0$ and $a \neq -2010$). Let $f(-2) = 4$, then $g(-1) =$ [ ]

a] 2011 b] 2010 c] – 2010 d] – 2011

5. If $x^n + y^n$ is exactly divisible by $x+y$ then n is [ ]

a] Odd b] Even

c] All natural numbers d] None

6. If f(x) is divided by $x-a$ then remainder [ ]

a] f (a) b] f (–a) c] 0 d] f $(x-a)$

7. The value of the polynomial $5x - 4x^2 + 3$ at $x = -1$ is [ ]

a] – 1 b] – 6 c] – 8 d] 0

8. The zero of the polynomial P(x) = $3x$ is [ ]

a] 1 b] 0 c] 2 d] 3

9. The remainder when $x^3 - ax^2 + 6x - a$ is divided by $x - a$ is [ ]

a] 3a b] 4a c] 5a d] 6a

10. The quotient of $x^3 - 27x^2 + 8x + 18$ when it is divided by $x - 1$ is[ ]

a] $x^2 + 26x + 18$ b] $x^2 + 26x - 18$ c] $x^2 - 26x - 18$ d] $x^2 - 26x + 18$