

Polynomial Formative Assignment

Match the column

Degree of polynomial	Polynomial
1	$x^5 - 3x^2 + 1$
2	$x - 1$
3	$x^4 - 3x^2 + 2 + 3x^3$
4	$x^2 - 2x - 1$
5	$1 - 3x^3$

Match the column

type of polynomial	Polynomial
monomial	$x^5 - 3x^2 + 1$
binomial	$x - 1$
trinomial	$x^4 - 3x^2 + 2 + 3x^3$
No appropriate match	$x^2 - 2x - 1$
	$3x^3$

Table Type

$$P(x) = 5x^2 - 3x + 7$$

P(0)	P(1)	P(5)	P(-1)	P(-2)

Multiple choice Questions

1) Find the remainder when $x^4 + x^3 - 2x^2 + x + 1$ is divided by $x - 1$

- a) 1
- b) 5
- c) 2
- d) 3

Solution (c)

2) Which of these identities is not true?

- a) $(x + y)^2 = x^2 + 2xy + y^2$
- b) $(x - y)^2 = x^2 - 2xy + y^2$
- c) $x^2 - y^2 = (x + y)(x - y)$
- d) $(x + y + z)^2 = x^2 + y^2 + z^2 + 3xyz$

Solution (d)

True or False statement

- 1) $P(x) = x - 1$ and $g(x) = x^2 - 2x + 1$. $p(x)$ is a factor of $g(x)$
- 2) The factor of $3x^2 - x - 4$ are $(x + 1)(3x - 4)$
- 3) Every linear polynomial has only one zero
- 4) Every real number is the zero's of zero polynomial
- 5) A binomial may have degree 4
- 6) 0, 2 are the zeroes of $x^2 - 2x$
- 7) The degree of zero polynomial is not defined

Solution

- 1) True, as $g(1)=0$
- 2) True, we can get this by split method
- 3) True
- 4) True
- 5) True , example $x^4 +1$
- 6) True
- 7) True

Factorize following

- a) $x^2 +9x+18$
- b) $3x^3 -x^2-3x+1$
- c) $x^3-23x^2+142x-120$
- d) $1+8x^3$

Solution

- a) $(x+6)(x+3)$
- b) $(3x-1)(x-1)(x+1)$
- c) $(x-1)(x-10)(x-12)$
- d) $(2x+1)(4x^2-2x+1)$