The Wisdom Global School

Vedic maths worksheet

Topic- Long division of polynomials TIME- _____

Q1. Solve the following :

(i) $3ab(a^2 -25) \div (a+3)$

(ii) $12x(x^2+3x+2) \div 4x(x+1)$

(iii) $(6a^2-2a-28) \div (2a+4)$

(iv) $(3x^3 +4x^2-7x-5) \div (3x-2)$

(v) $(12x^3-11x^2+9x+18) \div (4x+3)$

(vi) $(y^3+5v^2 + 10) \div y$

(vii) $(x^2+8x+20) \div (x+5)$

(viii) $(y^3-y^2-9y+9) \div (y-1)$

(ix) $(6xy+3x+2y+1) \div (3x+1)$

(x) $(ay+az+by+bz) \div (a+b)$

Q2. Find the quotient and remainder when $(x^5 + 3x^4 – 5x^3 + 14x^2 + 36x - 13)$ is divided by $(x^2 + 4x – 2)$.

Q3. Use the long polynomial division to simplify the following quotient.

$(27x^3 + 9x^2 − 3x − 9) \div (3x − 2)$.

Q4. Use polynomial long division to perform the division and then write the dividend in the form p(x) = g(x) q(x) + r(x).

$(2x^3 + 7x^2 − 13x − 3) \div (2x − 3)$

Q5. Using the Synthetic division method, find the quotient and remainder when $7x^4 − 10x^3 + 3x^2 + 3x − 3$ is divided by $x − 1$.

Q6. Find the quotient and remainder for $(10x^2 + 53x − 37) \div (10x − 7)$.

Q7. Divide $p(x) = 3x^4 + 5x^3 – 7x^2 + 2x + 2$ by $g(x) = x^2 + 3x + 1$.

Q8. If the polynomial $p(x) = 3x^4 – 9x^3 + x^2 + 15x + p$ completely divisible by $3x^2 – 5$, then find the value of p.

Q9. On dividing $p(x) = x^3 – 3x^2 + x + 2$ by a polynomial g(x), the quotient and remainder were $x – 2$ and $–2x + 4$, respectively. Find g(x).

Q10. Find all the factors of $2x^4 – 7x^3 – 13x^2 + 63x – 45$.

Q11. Rehan saw a vegetable vendor near his house in some old torn clothes, trying to save all the money for his children's schooling. So he bought a long cloth of length $(y^3 - 18y^2 - 40y)$ m. He divided it into equal shirt pieces of length $(y + 2)$ m each to distribute among the street vendors in his area. Find the number of vendors he can distribute the cloth pieces to.

Q.12 If the area of a rectangle is $(2a^2-14a+24)$ sq. units and width $(a-4)$ unitsthen find the length of rectangle.