Division of Algebraic Expressions Ex 8.1 Q1

Answer :

(i) ***Correction*** : *It is* $2x^3+5x^2-7$ *instead of* $2x^2+5x^2-7$.

The degree of the polymonial $2x^3+5x^2-7$ is 3.

(ii) The degree of the polymonial $5x^2-35x+2$ is 2.

(iii) The degree of the polymonial $2x+x^2-8$ is 2.

(iv) The degree of the polymonial $\frac{1}{2}y^7-12y^6+48y^5-10$ is 7.

(v) The degree of the polymonial $3x^3+1$ is 3.

(vi) 5 is a constant polynomial and its degree is 0.

(vii) The degree of the polymonial $20x^3+12x^2y^2-10y^2+20$ is 4.

Division of Algebraic Expressions Ex 8.1 Q2

Answer :

(i) x^2+2x^{-2} is not a polynomial because -2 is the power of variable x is not a non negative integer.

(ii) $\sqrt{ax}+x^2-x^3$ is not a polynomial because $\frac{1}{2}$ is the power of variable x is not a non negative integer.

(iii) $3y^3-\sqrt{5}y+9$ is a polynomial because the powers of variable y are non negative integers.

(iv) $ax^{\frac{1}{2}}+ax+9x^2+4$ is not a polynomial because $\frac{1}{2}$ is the power of variable x is not a non negative integer.

(v) $3x^{-2}+2x^{-1}+4x+5$ is not a polynomial because -2 and -1 are the powers of variable x are not non negative integers.

Division of Algebraic Expressions Ex 8.1 Q3

Answer :

(i) Standard form of the given polynomial can be expressed as :

$\left(5x^4 + x^2 + 6x + 3\right)$ or $\left(3 + 6x + x^2 + 5x^4\right)$

The degree of the polynomial is 4.

(ii) Standard form of the given polynomial can be expressed as :

$\left(5a^6 + a^2 + 4\right)$ or $\left(4 + a^2 + 5a^6\right)$

The degree of the polynomial is 6.

(iii) $\left(x^3 - 1\right)\left(x^3 - 4\right) = x^6 - 5x^3 + 4$

Standard form of the given polynomial can be expressed as :

$\left(x^6 - 5x^3 + 4\right)$ or $\left(4 - 5x^3 + x^6\right)$

The degree of the polynomial is 6.

(iv) $\left(y^3 - 2\right)\left(y^3 + 11\right) = y^6 + 9y^3 - 22$

Standard form of the given polynomial can be expressed as :

$\left(y^6 + 9y^3 - 22\right)$ or $\left(-22 + 9y^3 + y^6\right)$

The degree of the polynomial is 6.

(v) $\left(a^3 - \frac{3}{8}\right)\left(a^3 + \frac{16}{17}\right) = a^6 + \frac{77}{136}a^3 - \frac{6}{17}$

Standard form of the given polynomial can be expressed as :

$\left(a^6 + \frac{77}{136}a^3 - \frac{6}{17}\right)$ or $\left(-\frac{6}{17} + \frac{77}{136}a^3 + a^6\right)$

The degree of the polynomial is 6.

(vi) $\left(a + \frac{3}{4}\right)\left(a + \frac{4}{3}\right) = a^2 + \frac{25}{12}a + 1$

Standard form of the given polynomial can be expressed as :

$\left(a^2 + \frac{25}{12}a + 1\right)$ or $\left(1 + \frac{25}{12}a + a^2\right)$

The degree of the polynomial is 2.

********** END **********