**DIVISION of POLYNOMIALS**

**Recap:** When we divide monomials, we keep the base then subtract the exponents.

|  |  |
| --- | --- |
| Ex1.Simplify: $\frac{25x^{8}}{-5x^{3}}$ | Ex2. Simplify:$\frac{-32x^{3}y^{4}z^{5}}{-64x^{2}yz^{3}}$  |

**Lesson:** When we divide a polynomial by a monomial, we divide each term by the monomial.

|  |  |
| --- | --- |
| Ex1. Simplify:$$\frac{12x^{2}-36x}{3x}$$ | Ex2. Simplify:$$(15x^{3}y^{2}-5xy)÷5xy$$ |

**Simplify the following algebraic expressions:**

|  |  |
| --- | --- |
| **i)**$\left(-7x^{3}+6x^{2}\right)÷(-x^{2})$ | **ii)** $\left(5b^{2}-10b-20\right)÷(-5)$ |
| **iii)** $$\frac{5ab+20ac-20ad}{5a}$$ | **iv)** $$\frac{14x^{2}y^{3}z-28x^{3}y^{2}z^{2}+35xyz}{7xyz}$$ |

**APPLICATIONS of POLYNOMIALS**

1. In an isosceles triangle, two of the sides have length. The perimeter of the triangle is . Find a polynomial to represent the length of the third side.
2. For the shape on the right, find:
3. The polynomials to represent the missing sides. Label the diagram: 5x+2
4. The **perimeter** of the whole shape

 3x

 8x+4

1. The **area** of the whole shape

 2x

1. A rectangular backyard has a length of  metres and a width of  metres. The owner has put down stones to create a square sitting area measuring  metres on all sides.
2. Calculate the area of the yard that is still grass (has not been covered by stones).

b) Calculate the grass area if x = 2