

Polynomial Quiz

Simple questions

1. Fill in the following table:

Expression	Number of Variables	Number of Terms	Type of Polynomial	Degree of Polynomial
$3a^4 - 2a^3 - a$				
$2m^2 - 3mn - 2n$				
$x^4y^3z - xyz$				
$abcd$				

2. An expression which contains variables is NOT considered a polynomial if the exponents on the variables are

_____ or _____ or _____.

3. Simplify the following expressions:

i) $4y - 3x + 2z + 3y - x$

ii) $3(2a - 3b)$

More complex questions

4. Simplify the following expressions:

i) $5x - 2(3 - (2x + 5)) + 2x$

ii) $(2m - 7)(3m - 4)$

iii) $(a - b)^2$

Challenging questions

5. Simplify the following expressions:

____i) $(3x - y)(2x^2 + 2xy + y^2)$

ii) $(a - b)(a + b) + (a - 2b)(2a + 2b) - ab$

iii) $(2m + n)(m + n)(3m + 2n)$

Unfamiliar situation

6. What volume of recyclable sustainable packaging is needed to cushion this gift in its packing box?



Orb with sea image by [Mitchell Gaiser](#) on Unsplash, [Brandable Box](#) on Unsplash

The orb is $6n$ in diameter and the box is $7n + 2t$ wide and the same long and $7n + 3t$ tall. (Measurements are n = fingerwidth and t = thumbwidth). Remember that the formula for volume of a rectangular prism is lwh and the formula for a sphere is $\frac{4}{3}\pi r^3$.

Use 3.14 for π at the last point you can in your solution.