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 πat the last point you can in your solution.