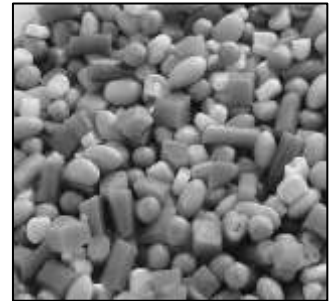


Problems of the Month

December 2015 & January 2016

General Problem:

The price of mixed frozen vegetables at a certain grocery store recently increased. In 2015 it cost \$1.98 for 2 pounds. In 2016 the price stayed the same, but the size of the package was reduced to 26 ounces. By taking into account the change in package size, determine the price increase of these mixed frozen vegetables increase. Express your answer as a percentage.



Calculus Problem:

Let f and g be real-valued functions on the real line. Find a general formula for $\frac{d^2}{dx^2} f(g(x))$.

Challenge Problem:

Consider the elliptic paraboloid E given by $z = x^2 + y^2$ and the plane P given by $z = 2y + 3$. Find an equation (using only variables x and y) of an ellipse that will have the same exact shape as the ellipse formed in the intersection of E and P .

