$\boxed{1.6 \\ \#56}$

Let p = price per unit of cereal
x = the quantity of cereal sold

$x \approx A p^{-1.6941}$ for some constant A

Suppose p increases by 1%. In this case the quantity sold is approximately

$$A(1.01p)^{-1.6941} = (1.01)^{-1.6941} A p^{-1.6941} \approx 0.983\, x \approx x - 0.017x$$

So, the quantity sold in this case is reduced by about 1.7%.

If p increases by 2%, then the quantity sold is approximately

$$A(1.02p)^{-1.6941} \approx 0.967\, x \approx x - 0.033x$$

So, if p increases by 2%, then the quantity sold is reduced by about 3.3%.

$\boxed{1.6 \\ \#66}$

x	$f(x)$	$g(x)$	x^2	x^3	$2x^2$	$0.2x^3$
1	0.2	2	1	1	2	0.2
5	25.0	50	25	125	50	25
15	675.0	450	225	3375	450	675

We see that $g(x) = 2x^2$ and $f(x) = 0.2x^3$

$\boxed{1.7 \\ \#34}$

Let p = price of candy bar (\$)
$R(p)$ = revenue from sales of candy bars (\$1000's/day)

Suppose $R(p) = 10p - p^2$ is valid for $p = 0.25 + 0.05t$ where t represents years. Now, R can be represented as a function of t as follows

$$R(t) = 10(0.25 + 0.05t) - (0.25 + 0.05t)^2, \text{ or}$$
$$R(t) = 2.4375 + 0.475t - 0.0025t^2.$$