Algebraic Problems Solutions
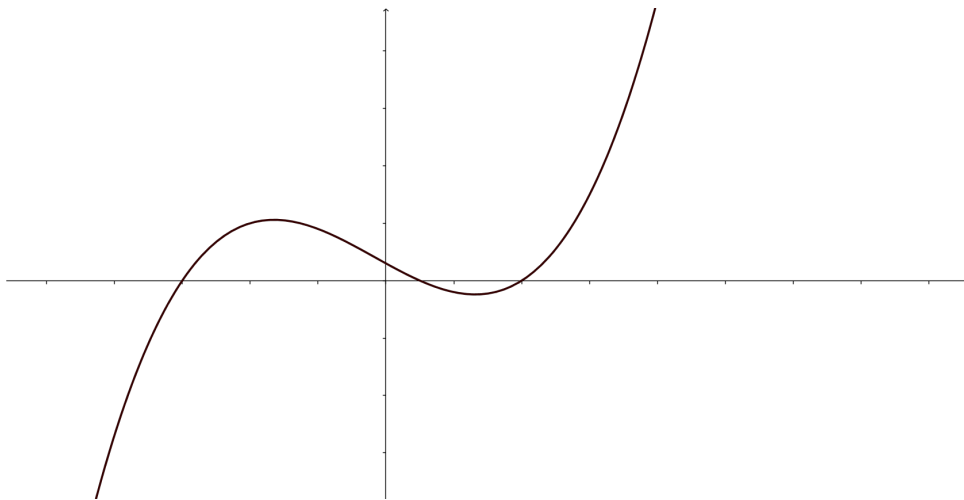
1. $x = 4$
   4 cm by 7 cm.

2. $(20 + 2x)(30 + 2x) = 800$
   $x = 1.86$m

3. $x = 6$, 8 is the next even number.

4. $t = 6; t = 8$

5. $\frac{270}{x} = y$
   $y - 3 = x$
   $270 = x(x + 3)$
   $x^2 + 3x - 270 = 0$
   $(x + 18)(x - 15) = 0$
   $x = 15$

6. $x = -3, x = \frac{1}{2}$

7. $x = 2$, then 4 and 6.

8.
   i. $x = 2.25$kg
   ii. The small bags are the best value, €1 per kilogram

9.
   i. $x^3 + x^2 - 6x$
   ii. $x^3 - 21x - 2-$

iii. $x^3 + 2x - 4x - 8$

iv. $x^3 - 2x^2 - 4x + 8$