① (0,3 cada una)

a) $3x - \frac{1}{3}x = \boxed{\frac{8}{3}x}$

$3 - \frac{1}{3} = \frac{3}{1} - \frac{1}{3} = \frac{9}{3} - \frac{1}{3} = \frac{8}{3}$

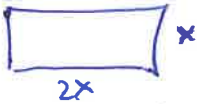
b) $x \cdot (x+1) = \boxed{x^2+x}$

c) $2x + 4(10-x) = 2x + 40 - 4x = \boxed{40-2x}$

x → motos

10-x → coches

d) $x \cdot (2x) = \boxed{2x^2}$



e) $x^2 - \frac{1}{3}(x-1) = x^2 - \frac{1}{3}x + \frac{1}{3}$

② (0,3 cada una)

a) $\boxed{x+100}$

b) $\boxed{2[x+(x+100)]} = 2[2x+100] = 4x+200$

c) $\boxed{3[(4x+200)-x]} = 3(4x+200-x) = 3(3x+200) = 9x+600$

d) $\boxed{0{,}8 \cdot (4x+200)} = 3{,}2x + 160$

e) $x + (x+100) + (4x+200) + (9x+600) + 3{,}2x + 160 = 18{,}2x + 1060$

③ (0,5 cada uno)

a) $P+Q = (-2x^2+5x) + (3x^2-2x+5) = -2x^2+5x+3x^2-2x+5 = 3x^2-2x^2+5x-2x+5$

$= \boxed{x^2+3x+5}$

b) $P-Q = (-2x^2+5x) - (3x^2-2x+5) = -2x^2+5x-3x^2+2x-5 = \boxed{-5x^2+7x-5}$

④ a) $(3x-2)\cdot(x-4) = 3x^2-12x-2x+8 = \boxed{3x^2-14x+8}$

(0,5) b) $(-3x+4)\cdot(2x^2-5x+4) = -6x^3+15x^2-12x+8x^2-20x+16 = -6x^3+23x^2-32x+16$

$-12x-20x+16 = \boxed{-6x^3+23x^2-32x+16}$

(0,16) c) $(-3x+1)\cdot(2x-3) - 2\cdot(x+1) = -6x^2+9x+2x-3-2x-2 = -6x^2+9x+2x-2x$

$-3-2 = \boxed{-6x^2+9x-5}$

⑤ (0,33 cada uno)

a) $(2x-3)^2 = (2x)^2 - 2\cdot(2x)\cdot 3 + 3^2 = \boxed{4x^2-12x+9}$

c) $(5x-2)(5x+2) = (5x)^2 - 2^2 = \boxed{25x^2-4}$

b) $(4x+3)^2 = (4x)^2 + 2\cdot(4x)\cdot 3 + 3^2 = \boxed{16x^2+24x+9}$

Fecha: __/__/____

(0,4 cada um)

6) a) $5x + 5y = 5(x+y)$ b) $x^2(x^2 - 5x + 2)$

7)

(0,4) c) $\frac{x^2+2x}{x^3} = \frac{\cancel{x}(x+2)}{\cancel{x}\cdot x^2} = \frac{x+2}{x^2}$

(0,6) b) $\frac{y^2-4y+4}{y^2-4} = \frac{(y-2)^2}{(y+2)(y-2)} = \frac{(y-2)\cancel{(y-2)}}{(y+2)\cancel{(y-2)}} = \frac{y-2}{y+2}$

(0,6) c) $\frac{x^3-5x^2}{x^2-25} = \frac{x^2\cancel{(x-5)}}{\cancel{(x+5)}\cancel{(x-5)}} = \frac{x^2}{x+5}$