Exercise 1: (2.25 ptos) Solve the following equations:

a) $5(2x-5)-4(x-3)=2x-(5-3x)$

b) $7(x-2)-2(x+3)=x+4(x-5)$

c) $\dfrac{3x-1}{2}-\dfrac{2x-5}{3}=x-\dfrac{2-x}{5}$

d) $\dfrac{7}{4}=\dfrac{5x-8}{2x+7}$

Exercise 2: (2 ptos) Expand using quadratic multiplication formulas:

a) $(y-7)^2=$

b) $(3x+5)^2=$

c) $(3a+b)(3a-b)=$

d) $\left(x^4+5x^2\right)^2=$

Exercise 3: (1 pto) Take out common factors:

a) $10a^2b^5-14a^7b^3-2a^2b^3=$

b) $24x^5-12x^4-6x^3+18x^2=$

Exercise 4: (1.5 ptos) Given the polynomials $P(x)=5x^3-7x^2-2$, $Q(x)=4x^3-7x^2-5x$ and $R(x)=3x-8$, work out:

a) $P+Q=$

b) $P-Q=$

c) $P\cdot R=$

Exercise 5: (1 pto) Work out:

$$\left(\frac{6}{5}-\frac{2}{7}\right)^{-1}-\left(\frac{2}{3}:\frac{4}{2}\right)^{-2}+2^{-3}=$$

Exercise 6: (1.25 ptos) A couple of months ago I bought a package of coffee. The first month I used two fifths of the coffee, and the next month, three fourths of the remaining. I still have 45 gr of coffee left. What was the original weight of the package?

Exercise 7: (1 pto) Evaluate the polynomial $P(x)=4x^3-7x^2+5x-9$ when $x=2$ and when $x=-1$