1) $(f+g)(x) = $ __x^2+2x-7__ D_{f+g} {x|All reals}

2) $(f-g)(x) = $ __$-x^2+2x+1$__ D_{f-g} {x|All reals}

3) $(f \cdot g)(x) = $ __$2x^3-3x^2-8x+12$__ D_{fg} {x|All reals}

4) $\left(\dfrac{f}{g}\right)(x) = $ $\dfrac{2x-3}{-x^2-4}$ $D_{\frac{f}{g}} = $ $(-\infty,-2)\cup(-2,2)\cup(2,\infty)$

5)

   a) $\dfrac{3(x+2)}{(x+3)(x-3)} = \dfrac{3x+6}{x^2-9}$ $D_{f+g} = $?$(-\infty,-3)\cup(-3,3)\cup(3,\infty)$

   b) $\dfrac{2(x+3)}{x} = \dfrac{2x+6}{x}$ $D_{\frac{f}{g}} = $?$(-\infty,-3)\cup(-3,0)\cup(0,3)\cup(3,\infty)$

   c) $\dfrac{2x}{(x-3)^2(x+3)} = \dfrac{2x}{x^3-3x^2-9x+27}$ $D_{fg} = $?$(-\infty,-3)\cup(-3,3)\cup(3,\infty)$

6) a) $(h \cdot p)(x) = \sqrt{x^3+x}$ X(x^2+1)>0 when x<0, (0, ∞)

   b) $\left(\dfrac{h}{p}\right)(x) = \sqrt{\dfrac{x}{x^2+1}} = \dfrac{\sqrt{x(x^2+1)}}{x^2+1}$ and its domain? [0, ∞)

   c) $(h-p)(x) = \sqrt{x} - \sqrt{x^2+1}$ and its domain? [0, ∞)