Sign Analysis – Extra Practice

1. Determine the signs of the following expressions (and imagine what the graph can look like).

a) $f\left(x\right)=(x-3)(5+x)(x+1)$

b) $g\left(x\right)=(2x-3)^{2}(3x-4)^{3}$

c) $h\left(x\right)=\frac{2x^{2}-x-15}{x^{2}+5x+6}$

d) $k\left(x\right)=\frac{2x^{2}+7x-4}{x^{2}+3x-4}$
2. Solve the following inequalities and write your answer as an interval.

a) $\left(2-x\right)\left(x+5\right)>0$

b) $(2x-5)(x+3)(2x-4)\leq 0$

c) $\frac{x^{2}+x-6}{x+1}<0$

d) $\frac{x^{2}-4x+4}{x^{2}+2x-3}\geq 0$