Power series representations

1. (i) Find a power series centered at 0 for the function
   (ii) Determine its interval of convergence
   (iii) Do the same for all possible centers.

(a) $f(x) = \dfrac{3}{2+x}$

(b) $f(x) = \dfrac{5}{1-4x^2}$

(c) $f(x) = \dfrac{1}{x^2+b^2}$

(d) $f(x) = \ln(5+x)$

(e) $f(x) = \ln(5-x)$

(f) $f(x) = \dfrac{2x+3}{x^2+3x+2}$

(g) $f(x) = \dfrac{1+x}{(1-x)^2}$

(h) $f(x) = \tan^{-1}(2x)$