More About Graphing Quadratic Functions

Ex 1 Complete the square to write each function in the form \( f(x) = a(x-h)^2 + k \).

a) \( f(x) = x^2 + 5x + 3 \) 

b) \( f(x) = -2x^2 - 5x + 10 \)

Ex 2 For each quadratic function, (a) find the vertex and axis of symmetry, (b) find the maximum/minimum function value, and (c) graph the function.

a) (# 22) \( f(x) = x^2 - 10x + 21 \) 

b) (# 40) \( f(x) = -3x^2 - 7x + 2 \)

c) (# 42) \( h(x) = \frac{1}{2}x^2 - 3x + 2 \)

Ex 3 Find the x- and y-intercepts of \( f(x) = x^2 - 10x + 21 \).