

Standard Form

1. Expand and Simplify.

a) $(5x+2)(x+2)$

b) $(x-2)(7x+3)$

c) $(2x-1)(2x+1)$

d) $(x+1)^2$

e) $(-3x+5)^2$

f) $4(x-6)(x+7)$

g) $-(x+3)(4x-1)$

h) $(x+y)(2x+3y)$

i) $(2x-y)(3x-4y)$

2. Write an equation for a quadratic in **standard form** with zeros of -1 and 7 and passing through (3,8).

3. Given the quadratic equations below, determine:

- a) The direction of opening.
- b) The axis of symmetry.
- c) The vertex.
- d) The y-intercept

i) $y = -2x^2 + 8x - 3$

ii) $y = 2x^2 - 15x + 4$