Unit 3: Quadratics

1) Which of the following equations shows the minimum or maximum of h(x)? Is it a max or min?

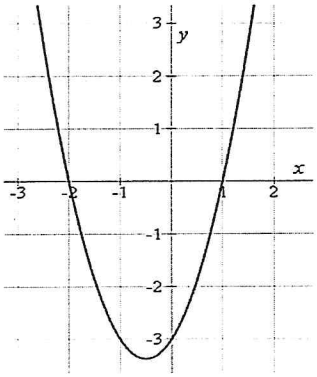
$h(x)= 2(x+ 3)(x+ 1)$ $h(x)= 2(x+ 2)^2-2$ $h(x)= 2x^2+ 8x+ 6$

2) Factor to find the x-intercepts

a) $x^2 - 13x + 30= 0$ b) $x^2 + 5x - 14 = 0$

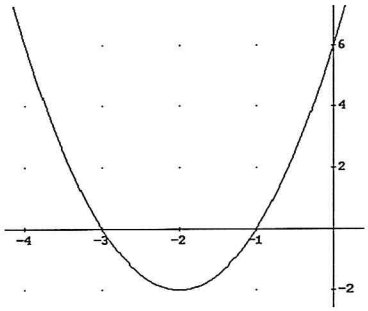
3) **NC** The graph below can be represented by which of the following equations:

a) $y = (x - 2)(x + 1)$
b) b) $y = (x - 1)(x + 2)$
c) c) $y = (x + 1)(x + 2)$
d) d) $y = (x - 1)(x - 2)$



4) **NC** Select all of the functions that can represent the following graph:

a) $2x^2+ 4x + 3$
b) $2(x + 3)(x + 1)$
c) $2(x + 2)^2 -2$
d) $2(x - 3)(x - 1)$
e) $2x^2 + 8x + 6$
f) $2(x - 2)^2 - 2$



5) **NC** Solve the following equations using any method.

a) $(p - 6)^2 = 9$ b) $x^2 - 11x + 19 = -5$ c) $x^2 + 4x + 6= 0$

6) How many times does each of the following functions intersect the x-axis?

a) $y = 3x^2 + \frac{2}{3}x - \frac{1}{3}$ b) $f(x) = \frac{4}{3}x^2 - 4x + 3$ c) $f(x) = 2x^2 - \frac{1}{2}x + \frac{3}{2}$