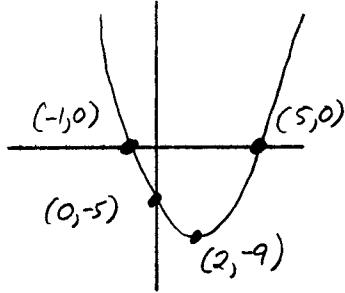
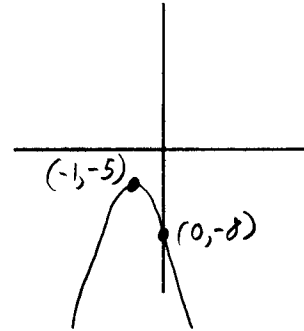


**P-26** Analyze each quadratic function using an appropriate method ("factoring," "completing the square" or "the formulas"). Sketch each parabola showing the vertex, the  $y$ -intercept and any  $x$ -intercepts.

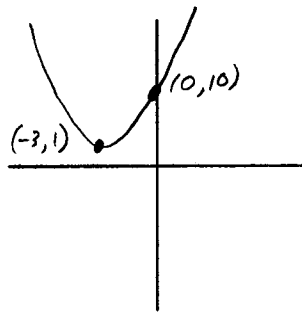
1.  $y = x^2 - 4x - 5$   
 $y = (x-5)(x+1)$



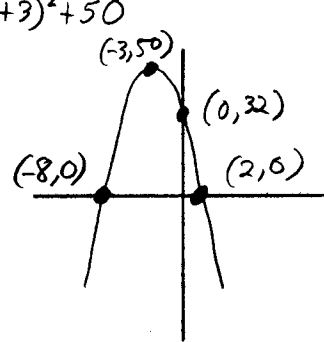
4.  $y = -3x^2 - 6x - 8 = -3(x^2 + 2x) - 8$   
 $= -3(x+1)^2 - 5$



2.  $y = x^2 + 6x + 10$   
 $y = (x+3)^2 + 1$



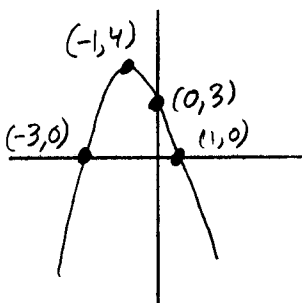
5.  $y = -2x^2 - 12x + 32 = -2(x^2 + 6x) + 32$   
 $= -2(x+3)^2 + 50$



OR  $-2(x^2 + 6x - 16)$   
 $= -2(x+8)(x-2)$

$x$ -intercepts when  $0 = -2(x+3)^2 + 50$   
 $2(x+3)^2 = 50$   
 $(x+3)^2 = 25$   
 $x+3 = 5$  or  $x+3 = -5$   
 $x = 2$  or  $x = -8$

3.  $y = -x^2 - 2x + 3$   
 $= -(x^2 + 2x - 3)$   
 $= -(x+3)(x-1)$



6.  $y = 2x^2 + 8x + 9 = 2(x^2 + 4x) + 9$   
 $= 2(x+2)^2 + 1$

