MTH 30. QUIZ 4. NAME:_____
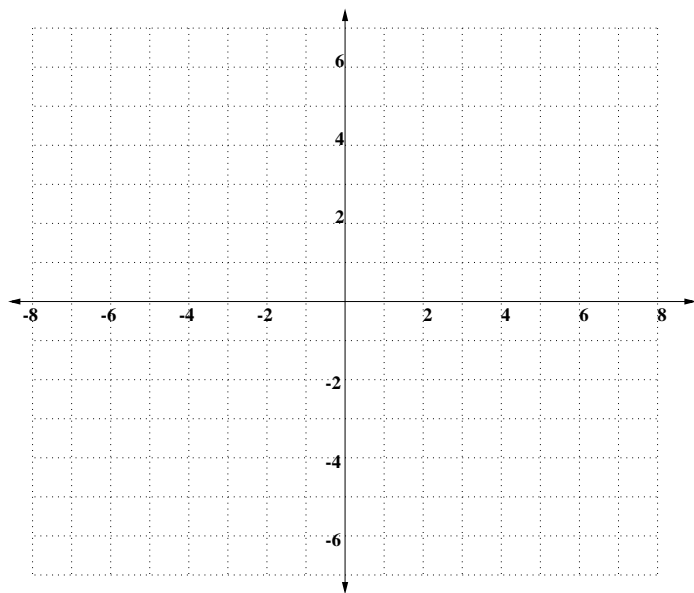
[10] **1.** Find the vertex and intercepts to sketch the graph of the quadratic function $f(x) = -2(x-3)^2 + 2$ in the axes below. Give the equation of the axes of symmetry of the parabola and use the graph to determine the range of f.

[10] **2.** Graph the function $f(x) = -2\,x^6 + 4\,x^5 + 10\,x^4 - 8\,x^3 - 14\,x^2 + 4\,x + 6$ in the axes below. **Some help:** I give you the factorization: $f(x) = -2\,x^6 + 4\,x^5 + 10\,x^4 - 8\,x^3 - 14\,x^2 + 4\,x + 6 = -2(x-3)(x-1)^2(x+1)^3$.