For each parabola find the axis of symmetry, vertex, and roots:

1) $y = -x^2 - 4x + 5$ 2) $y = x^2 - x - 6$

AOS: $\underline{x =}$ _____   AOS: _____

Vertex: _____   Vertex: _____

Roots: _____ and _____   Roots: _____ and _____

3) $y = -2x^2 + 5x + 3$ 4) $y = 3x^2 - 3x - 6$

AOS: $\underline{x =}$ _____   AOS: _____

Vertex: _____   Vertex: _____

Roots: _____ and _____   Roots: _____ and _____

For 5-8: Round all answers to the nearest hundredth:

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

AOS: x = _____   AOS: _____

Vertex: _____   Vertex: _____

Roots: _____ and _____   Roots: _____ and _____

7) $y = -5x^2 + 3x$ 8) $y = -x^2 + 5$ (be careful… what's b equal to?)

AOS: x = _____   AOS: _____

Vertex: _____   Vertex: _____

Roots: _____ and _____   Roots: _____ and _____

9) a) Graph: $y = -x^2 + 7x - 6$
   b) Is the vertex a minimum or maximum?
   c) Find the axis of symmetry.
   d) Find the vertex.
   e) Find the roots.

10) a) Graph: $y = 3x^2 + x - 5$
   b) Is the vertex a min. or max.?
   c) Find the axis of symmetry.
   d) Find the vertex.
   e) Find the roots.