

## Exam Review: Quadratic Functions

**1. Multiply or divide. Express answers as simplified mixed radical.**

a)  $\sqrt{5} \times \sqrt{10}$

b)  $\frac{\sqrt{40}}{\sqrt{2}}$

c)  $\frac{\sqrt{3} \times \sqrt{8}}{\sqrt{2}}$

**2. Solve the following quadratic equations.**

a)  $x^2 - 3x - 10 = 0$

b)  $4x^2 + 9 = 12x$

**3. Determine the number of roots/solutions for each equation.**

a)  $x^2 + 5x + 3 = 0$

b)  $2x^2 + x + 3 = 0$

**4. Determine the quadratic function that has x-intercepts of 1 and 5 and passes through the point (4, 5).**

**5. Determine the quadratic function that has a vertex of (2, -3) and passes through the point (1, 0).**

**6. Determine the point(s) of intersection of the line  $y = 2x + 3$  and the parabola  $y = x^2 - 4x - 3$ . Be sure to document your steps.**

**7. Determine the vertex of  $y = 2x^2 + 4x - 6$ .**