**Quadratic Functions – Practice #1**

**1. Solve the following quadratic equations.**

**a) b) c)**

**2. Expand and simplify the following expressions; note final answers should be expressed in simplified mixed radical form.**

**a) b) c)**

**3. Determine the point(s) of intersection between the given line and parabola.**

**a) b)**

**4. Determine the distance separating the two points of intersection for the graphs:**

**5. Determine the family of quadratic functions that have an x-intercept of**

**4 and 12.**

**6. a) Determine the family of quadratic functions that have a vertex**

**at (4, -2).**

**b) Determine the specific quadratic equation from part a) that goes**

**through the point (3, -5).**

**7. A bridge is built such that the two ends that touch the ground are**

**separated by 8 m. Two metres in from one side, the bridge is 3 m high.**

**What is the highest point on the bridge?**

**8. A football is thrown in a parabolic arc down the field to a receiver. The football leaves the quarterback’s hand from a height of 3 m above the ground. The football reaches a maximum height of 12 m once it has gone 15 m down the field. If the received misses the ball, how far down the field does it travel before hitting the ground?**