**Grade 11 College Math Lesson:3 - 7**

**Unit: Algebra of Quadratics Topic: Solving Problems by Writing Quadratic Equations \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

* ***homework check:* Lesson 3 - 6**
* ***note:* Solving** **Problems by Writing Quadratic Equations**

Finding the equation of a parabola or quadratic given certain information is possible. For example, given the equation  with vertex  , find the values of b and c.

From the equation given, we know that the value of  and in vertex form, we can write:



Therefore, b = 20 and c = - 59.

A bird is flying in the 100m air approximately 10 seconds from a cat that waits patiently. If the value of a = -.8, write the equation in standard form of this parabola.



* ***homework assignment:* Lesson 3 - 7**

**Lesson 3 – 7:**

1. **Write the equation of each of the following in vertex form**
2. **Given  and vertex **
3. **Given  and vertex **
4. **Given  and vertex **
5. **Given  and vertex **
6. **An eagle is chasing a mink that is approximately 8 seconds away at a depth of 25m. If the value of a = 5, find the equation in standard form.**
7. **A paratrooper is gliding up and down with the gusts of wind. At 25 m from the landing site, he is approximately 50m in the air. If the value of a = - 4, write the equation of the quadratic in standard form.**
8. **A clown loses his bunch of balloons. Another clown sees the bundle 25 miles away about 8 miles in the air. If the value of a = - 0.6, find the equation in standard form.**
9. **A diver dives down under the water 100m taking him 5 minutes. If the value of**

**a = - 0.25. Write the equation in standard form.**

**b) If the diver is still underwater after 8 minutes, how high deep is he?**