**Grade 11 College Math Lesson:3 - 8**

**Unit: Algebra of Quadratics Topic: Solving Problems of Quadratic**

 **Relations**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

* ***homework check:* Lesson 3 - 7**
* ***note:* Solving Problems involving Quadratic Relations**

 There are several things we can find from a quadratic equation: roots, x-intercepts, solutions, axis of asymmetry, vertex, and a maximum or minimum value. Remember to watch for exponents and integer signs. For example, given the equation  , find the equation of the axis of symmetry.



Given the diagram below, find the amount of white space.



 

* ***homework assignment:* Lesson 3 - 8**

**Lesson 3 – 8**

1. **Find the zeroes of each quadratic relation. (12 marks)**
2. ** b)  c) **

**d)  e)  f) **

1. **Write the equation of the axis of symmetry for each. (3 marks)**
2. ** b) c)**

1. **Find the equation of the axis of symmetry for each. (12 marks)**
2. ** b)  c) **

**d)  e)  f) **

1. **A rectangular pool is 9m wide and 6m long. A concrete deck of varying width surrounds the pool as shown in the diagram.**
2. **Write a relation for the total width and the total length of the pool AND deck. (2 marks)**

**Length: Width:**

1. **If the total area of the pool and deck cannot exceed 270m2, find x? (4 marks)**
2. **A square-based box with an open top is to be made from a square piece of cardboard that has side length of 81 cm. The sides of the box are formed when four congruent square corner pieces are removed. The height of the box to be formed is represented by the value 2x as shown in the diagram shown.**

**a) Determine an expression for the area of cardboard only. \*Don’t forget the corners are NOT included. (2 marks)**

**b) Find the height of the box if the surface area is 4257cm2.**