Name:

QUIZ – MATH GRADE 10

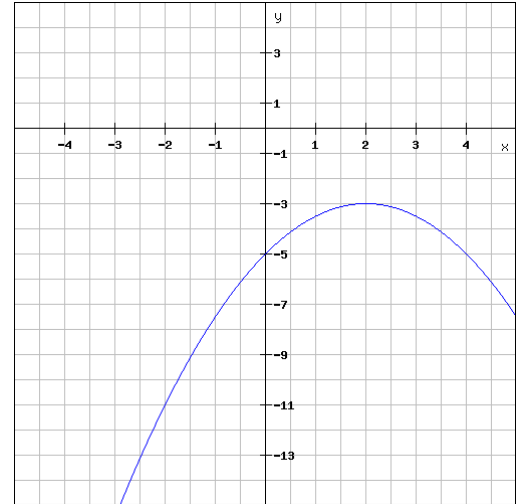1. (20%) Write the function **in all forms**: $f(x) = 4x^2 - 24(x + 1) + 8$

2. (10%) Given the parabola $f(x) = -2(x + k)^2 + 8$. The discriminant must be _____

3. (20%) What values of b make the relation $y = 2x^2 + bx + b$

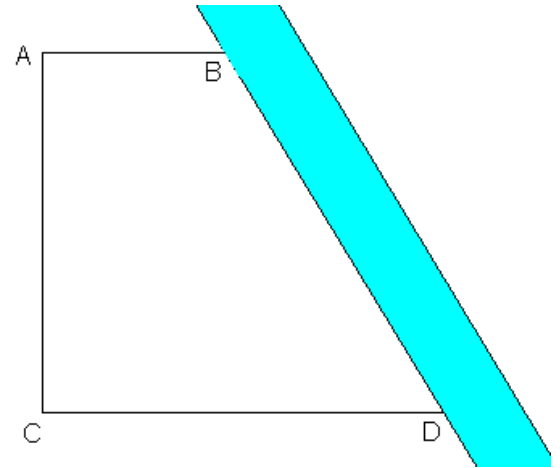   a. (10%) Have 1 zero

   b. (10%) Have 2 zeros

4. (10%) Write down a quadratic function that opens downwards, wider that x^2, has 1 zero and its vertex is on the left of the y axis.

5. (20%) Given the graph, write the expression of the function in **all forms:**

6. (20%) Given the farm ACDB built next to the river where AB is parallel to CD. The farmer has 100 meters of fencing. CD = 3AB. Diagram not to scale.

a. (12%) Find the function that represents the **area** of the farm in terms of AB = x. **Help**: Use area of trapezoid or divide to rectangle and triangle.

b. (8%) Find the length of AB that will maximize that area. Find the area in this case.