

# Mathematics Class Slides

## Bronx Early College Academy

Chris Huson

28 January 2020

5.1 Solving quadratic equations	Tuesday 28 January
5.2 Quadratic functions where $a \neq 1$	Wednesday 29 January
5.3 Completing the square	Friday 31 January
5.4 Quadratic formula	Monday 3 February
5.5 Quadratic formula	Tuesday 4 February
5.5 The discriminant	Tuesday 4 February
5.6 The discriminant	Wednesday 5 February
5.7 The discriminant	Thursday 6 February
5.8 The discriminant	Friday 7 February

## GQ: How do we factor and solve quadratic equations?

CCSS: HSF.IF.C8.A Factor quadratic functions to show zeros 5.1 Tuesday 28 January

### Do Now: Quadratic functions

1. Function operations, composition, inverse
2. Interpreting quadratic functions in vertex form
3. Solving graphical situations

Exam makeup: Dayna, Monica, Wendy

(collect take-homes from vector group)

Lesson: Factored form; "solutions," "roots," "zeros,"  $x$ -intercepts

Quadratic functions pp. 233-236

Homework: Deltamath Factoring (continue textbook problems)

## GQ: How do we graph quadratics when $a \neq 1$ ?

CCSS: HSF.IF.C8.A Factor quadratic functions to show zeros 5.2 Wednesday 29 January

### Do Now: Solving quadratic equations

1. Factoring quadratic functions
2. Interpreting quadratic functions in vertex form
3. Solving graphical situations

Lesson: Vertical stretch, the  $a$  parameter

The axis of symmetry

Homework: Deltamath Completing the square, due Thursday  
(continue textbook problems)

## GQ: How do we factor by “completing the square”?

CCSS: HSF.IF.C8.A Complete the square of quadratic functions 5.3 Friday 31 January

Do Now: Solving quadratic equations

Classwork counts double while Dr. Huson is out!

1. Graphing quadratic functions
2. Factoring quadratic functions
3. Solving graphical situations

Please complete Workplace Visits career questionnaire.

Lesson: Completing the square, converting to vertex form

Homework: Deltamath due Sunday 10:00pm (continue textbook problems)

## GQ: How do we use the quadratic formula?

CCSS: HSF.IF.C8.A Complete the square of quadratic functions 5.4 Monday 3 February

### Do Now: Solving quadratic equations

1. Completing the square
2. Graphing quadratic functions
3. Factoring quadratic functions

Lesson: Applying the quadratic formula

Homework: Deltamath due tomorrow 10:00pm  
(continue textbook problems)

## GQ: How do we use the quadratic formula?

CCSS: HSF.IF.C8.A Complete the square of quadratic functions 5.5 Tuesday 4 February

### Do Now: Solving quadratic equations

1. Completing the square
2. Graphing quadratic functions
3. Factoring quadratic functions

Lesson: Applying the quadratic formula

Homework: Deltamath due tomorrow 10:00pm  
(continue textbook problems)

## GQ: How do we derive the quadratic formula?

CCSS: HSF.IF.C8.A Complete the square of quadratic functions 5.5 Tuesday 4 February

Solve by completing the square

1.  $x^2 - 8x + 5 = 0$

2.  $x^2 + 12x + 4 = 0$

3.  $3x^2 - 12x - 7 = 0$

4.  $-2x^2 - 12x - 9 = 0$

5.  $4x^2 + 8x - 9 = 0$

6.  $-3x^2 - 18x - 35 = 0$

7.  $5x^2 + 20x + 32 = 0$

Complete the square using arbitrary coefficients

$$ax^2 + bx + c = 0$$



## GQ: How do we know the number of solutions of a quadratic function?

CCSS: HSF.IF.C8.A Complete the square of quadratic functions 5.5 Tuesday 4 February

### Do Now Quiz: Calculator practice

1. Graphical solutions of systems of functions
2. Linear regression
3. Frequency tables
4. Complex calculations (e.g. cosine rule)

Lesson: Using the discriminant,  $D$  or  $\Delta$

Homework: Deltamath due tonight 10:00pm (continue textbook problems)

## GQ: How do we know the number of solutions of a quadratic function?

CCSS: HSF.IF.C8.A Complete the square of quadratic functions 5.6 Wednesday 5 Feb

### Do Now: Solving quadratic equations

1. Graphing quadratic functions
2. Factoring quadratic functions
3. Completing the square

Lesson: Completing the square, converting to vertex form

Homework: Deltamath due tonight 10:00pm (continue textbook problems)

## GQ: How do we graph polynomial functions?

CCSS: HSF.IF.C8.A Complete the square of quadratic functions 5.7 Thursday 6 February

### Do Now: Solving quadratic equations

1. Graphing quadratic functions
2. Factoring quadratic functions
3. Completing the square

Lesson: Features of polynomial graphs, increasing/decreasing

Homework: Deltamath (continue textbook problems)

## GQ: How do we graph polynomial functions?

CCSS: HSF.IF.C8.A Complete the square of quadratic functions 5.8 Friday 7 February

### Do Now: Solving quadratic equations

1. Graphing quadratic functions
2. Factoring quadratic functions
3. Completing the square

Lesson: Features of polynomial graphs, increasing/decreasing

Homework: Deltamath (continue textbook problems)