Mathematics Class Slides

Bronx Early College Academy

Chris Huson

13-17 September 2021

1.1 1st day of Geometry, Segment addition, 13 Sept

1.2 Function domain and range

1.5 Problem sets working with functions

1.6 Problem sets working with functions

1.3 Precision and significant figures, 3 Oct

1.4 Error bounds, 4 Oct

1.5 Exponents & scientific notation, 5 Oct

1.9 Deltamath: scientific notation, trig 6 Oct

1.17 review, bounds, 7 Oct

Learning Target: I can measure and diagram my world

CCSS: HSG.CO.A.1 Know precise geometric definitions 1.1 Monday 13 Sept

Welcome back to school

Do Now: Measurement

1. Notebook first page: Name / Course / Instructor
2. Diagram people closest to you and their distance
3. Early finishers: Calculate diagonal distances

Supply list: Composition book, looseleaf, pencils & pens, compass and ruler; Optional: calculator, folder

Lesson: Linear functions, slope, solving; vertical line test p 4-6

Homework: Diagram your bedroom (with measurements), or another room

Learning Target: I can apply domain and range

CCSS: HSF.IF.C.7 Analyze functions 1.2 Tuesday 14 Sept

Do Now: In your notebook

1. Solve for x:
   $$x - 7 = 11 \qquad 2(x - 5) \geq 4$$
2. What is the slope of the line $y = 3x - 2$?
3. $f(x) = x^2 - 3$. Find $f(1)$

Lesson: Domain, range, function review pp 204-8

Groupwork: Investigation 1 pp 206-8

Homework: Skills Check p 205

Learning Target: I can employ the language of functions

CCSS: HSF.IF.C.7 Analyze functions 1.5 Monday 20 Sept

Do Now: In your notebook

1. Solve for x:
   $$2x - 9 = 3 \qquad 3(x - 3) \leq 12$$
2. What is the slope of the line $y = 2x - 5$?
3. $f(x) = x^2 + 6$. Find $f(2)$

Lesson: Independent and dependent variables

Linear equations and function review pp 204-8

Groupwork: Exercises 5C pp 220-221

Learning Target: I can employ the language of functions

CCSS: HSF.IF.C.7 Analyze functions 1.5 Tuesday 21 Sept

Do Now: In your notebook

1. Solve for x:
   $$2x - 9 = 3 \qquad 3(x - 3) \leq 12$$
2. What is the slope of the line $y = 2x - 5$?
3. $f(x) = x^2 + 6$. Find $f(2)$

Lesson: Independent and dependent variables

Linear equations and function review pp 204-8

Groupwork: Exercises 5C pp 220-221

Learning Target: What is the appropriate precision for a calculation?

CCSS: MP5 Attend to precision 2.1 Monday 4 Oct

Do Now: Textbook chapter warmup, use looseleaf paper

1. Skills check #1-3 p. 3

Lesson: Rounding, significant figures, error bars pp. 1-5
Exercise 1A, #1-2, p. 5

Homework: Calculation and rounding practice

Learning Target: How do we measure the bounds of errors?

CCSS: MP5 attend to precision 2.2 Tuesday 4 Oct

Do Now: Calculator practice

1. Chapter review #1 p. 39
2. Pay careful attention to saving calculator values, rather than copying to paper and reentering.
3. Check your answers in back of book, p. 766

Lesson: Bounds and errors pp. 6-8

Practice exercises 1B p. 8-9
Homework: Function substitution, domain and range

Learning Target: How do we write very large or small numbers?

CCSS: MP5 attend to precision

2.3 Wednesday 5 Oct

Do Now: Precision practice

1. Practice exercises 1B p. 8-9
2. Pay careful attention to saving calculator values, rather than copying to paper and reentering.
3. Check your answers in back of book, p. 765

Lesson: Exponents & scientific notation pp. 9-12

Note exponent rules top of page 11

Homework: Practice exercises 1C p. 12-13

GQ: How do we practice the law of sines?

CCSS: MP5 attend to precision 2.4 Thursday 6 Oct

Deltamath practice: scientific notation, trig

1. Laptops, login with Teacher ID 546068
2. Do Deltamath sections in order
   Practice comes first, then new topics
3. Work extra problems on the skills you need to practice

New material: The sine formula for the area of a triangle page 22
Radian / degree conversion; law of cosines

Homework: Complete Deltamath problems, 10:00PM deadline

GQ: How do we calculate the bounds around a value?

CCSS: MP5 attend to precision 2.5 Friday 7 Oct

Do Now Quiz: Calculate Body Mass Index (link)

BMI is a measure of a healthy personal weight, $BMI = \frac{w}{h^2}$

w is a person's weight in kilograms and h is height in meters

1. Given a height of 170 cm and weight of 77 kg, find the BMI
2. These measurements are not exact. Assuming the height is between 169-171 cm and weight 76-78 kg, find the bounds of the BMI.

Lesson: Solid geometry, Chapter Summary

Homework: Chapter review 11-17 p. 39-40 (revisit problems)

GQ: How do we calculate the bounds around a value?

CCSS: MP5 attend to precision

Solution to Do Now Quiz: Calculate Body Mass Index (7)

1. $BMI = \dfrac{77}{1.70^2}$ M1 A1 allow 170^2

$= 26.64359\ldots$

≈ 26.6 A1 (N2))

2. Lowerbound: $BMI = \dfrac{76}{1.71^2}$ M1 A1

$= 25.9909\ldots$

≈ 26.0

Upperbound: $BMI = \dfrac{78}{1.69^2}$

$= 27.30996\ldots$

≈ 27.3 A1 A1 (N3)

award M1 A1 f.t. for 26.6, 26.7

Proper header with full name, date, and title (5 percentage points)

GQ: How do we calculate the bounds around a value?

CCSS: MP5 attend to precision

Quiz Corrections: Calculate Body Mass Index required

- Proper header with full name, date, and title
- Work downward in single column on left, in pen (you can add notes and diagrams on the right)
- Skip a line and number the problem
- Label to the left of equals sign (e.g. $BMI =$)
- Show substitution step
- Write the full calculator display (with ellipse)
- Show the rounded value, 3 sig-figs (exact value is also ok)

Copy this checklist into your notebook