

12.1 IB Math - Unit 6: Trig & Circular Functions

Bronx Early College Academy

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6.1 Right triangle review. Tuesday 5 March

6.2 Trigonometry applications. Wednesday 6 March

6.3 The unit circle. Thursday 7 March

6.4 The unit circle. Friday 8 March

6.5 Right triangle review. Monday 11 March

6.6 Deltamath trigonometry review. Tuesday 12 March

GQ: How do we define and calculate right triangle measures?

CCSS: HSG.SRT.C.8 Use trigonometric ratios to solve right triangles in applied problems

6.1 Tuesday 5 March

Do Now: Calculator integration fluency

For each: sketch, solve for $f(x) = g(x)$, and find the area between the curves (write down the integration expression)

1. $f(x) = x$, $g(x) = x^2$
2. $f(x) = -x^2 + 2$, $g(x) = -1$
3. $f(x) = x^3 - 9x$, $g(x) = \sin x$

Lesson: Trig ratios, special triangles' values p. 362-9

Practice: Calculator use, Examples #1, 2 p. 365

Exam review; Reminder: complete exploration papers, **parent conferences**

Homework: Part 2 take-home exam: Integration, no calculator

GQ: How do we apply trigonometry to situations?

CCSS: HSG.SRT.C.8 Use trigonometric ratios to solve right triangles in applied problems

6.3 Wednesday 6 March

Do Now: Solving triangles

1. Exercise 11B #2, p. 368

Lesson: Compass directions and modeling situations p. 369-373

Exam review

Homework: Trig IB papers problem set, handout

GQ: How do we use periodic functions?

CCSS: HSF.TF.A.3 Extend trig functions with the unit circle

6.4 Thursday 7 March

Do Now: Create a unit circle and label the standard angles with their coordinate pairs.

1. *Medium* Find the values of $\sin 30^\circ$, $\sin 45^\circ$, & $\sin 60^\circ$
2. *Spicy* Find $\sin \frac{\pi}{6}$, $\cos \frac{3\pi}{4}$, & $\tan -\frac{\pi}{3}$

Lesson: Periodic functions

Task: Work homework problems on board

Assessment: problem set mark scheme

Homework: Sine curves & mixed exam problems

GQ: How do we use periodic functions?

CCSS: HSF.TF.A.3 Extend trig functions with the unit circle

6.5 Friday 8 March

Do Now: Sketch the periodic function $f(x) = \sin x$

1. Label the x -axis with multiples of π , including standard fractions in the first quadrant
2. Mark the y -axis with the values of the standard angles (positive and negative).
3. Mark points on the curve at the standard angles.

Homework review

Lesson: Applications calculating the period as $\frac{2\pi}{b}$

Task: Work homework problems on board

Assessment: problem set mark scheme

Homework: Trig & mixed exam problems

GQ: How do we use periodic functions?

CCSS: HSF.TF.A.3 Extend trig functions with the unit circle

6.6 Monday 11 March

Do Now: Refresh your trigonometry!

1. Sketch the periodic functions $f(x) = \sin x$ and $g(x) = \cos x$ on the same axes
2. Draw the unit circle, marking the standard angles and noting their trig values: $(x = \cos \theta, y = \sin \theta)$.
3. Identify the parameters of $y = a \sin (bx - h) + k$
4. In your calculator graph $f(x) = \tan x$

Lesson: Homework review

Task: Work homework problems on board

Assessment: problem set mark scheme

Homework: Trig & mixed exam problems

GQ: How do we define and calculate right triangle measures?

CCSS: HSG.SRT.C.8 Use trigonometric ratios to solve right triangles in applied problems

6.2 Tuesday 5 March

Do Now: Special triangle trig (exact) values, no calculator

1. *Medium* Find the values of $\sin 30^\circ$, $\sin 45^\circ$, & $\sin 60^\circ$
2. *Spicy* Find $\sin \frac{\pi}{6}$, $\cos \frac{3\pi}{4}$, & $\tan -\frac{\pi}{3}$

Exam review

Lesson: Deltamath trigonometry (& calculus) review

Homework: Complete Deltamath problem set