Geometry Unit 6: Analytic Geometry

Bronx Early College Academy

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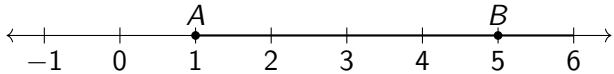
7 December 2022 - 13 January 2023

Learning Target: I can plot a midpoint on the plane

HSG.CO.C.9 Prove theorems about lines and angles 6.1 Thursday 8 December

Do Now

1. Review your Jumprope grades
2. Find the midpoint M of $\overline{AB}$



Lesson: Midpoint and average, classwork practice

Homework: Deltamath midpoint practice (optional extension)

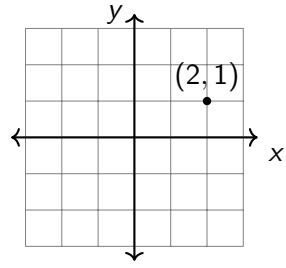
What do you know about the coordinate plane?

Coordinates Values locating a point on a plane (x, y)

Axis The two number lines, x and y-axis

Origin The center of the plane, $(0, 0)$

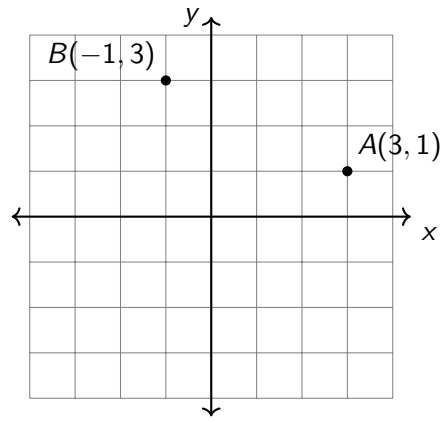
Quadrant The four quarters of the plane



The midpoint formula

Given $A(x_A, y_A)$, $B(x_B, y_B)$, midpoint

$$M = \left(\frac{x_A + x_B}{2}, \frac{y_A + y_B}{2}\right)$$



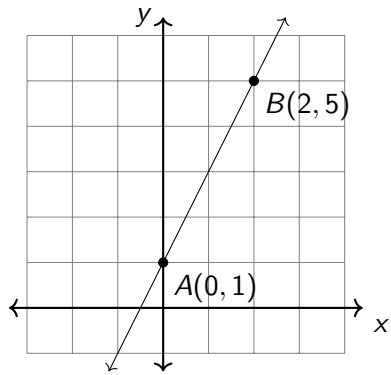
Learning Target: I can use slope-intercept form of linear equations

HSG.CO.C.9 Prove theorems about lines and angles

6.2 Friday 9 December

Do Now: Find the midpoint M of $\overline{AB}$

Lesson: Slope, y-intercept, linear equations
Homework: Deltamath graphing practice (optional extension)



Linear equations of the form $y = mx + b$

Linear	Straight, constant rate of change
Intercept	Where the line crosses the axis
b	y-intercept, point $(0, b)$ when $x = 0$
Increasing	Going up. y increases as x increases
Decreasing	Going down. y decreases as x increases
m, slope	How steep the line is

$$m = \frac{rise}{run} = \frac{y_B - y_A}{x_B - x_A}$$