Geometry Unit 10: Trigonometry

Bronx Early College Academy

Christopher J. Huson PhD

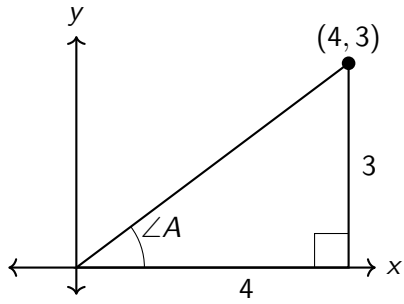
17 April 2023 - 5 May 2023

Learning Target: I can convert angle measures to slopes using the tangent function.

HSG.SRT.C.8 Use trigonometric ratios and the Pythagorean Theorem to solve problems 10.1 Monday 17 April

Do Now: Given right $\triangle$, as shown

1. What is the length of the hypotenuse?
2. What is the slope of the hypotenuse?
3. Estimate m$\angle A$ in degrees.

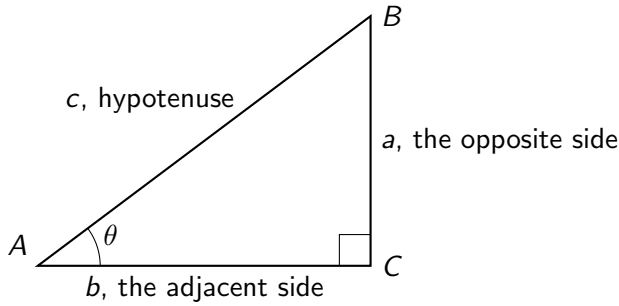


Lesson: The tangent function, calculator use

Homework: Complete the classwork practice, Deltamath problem set

Standard notation for trigonometric functions

Right triangle $\triangle ABC$ with side lengths a, b, c. $m\angle A = \theta$

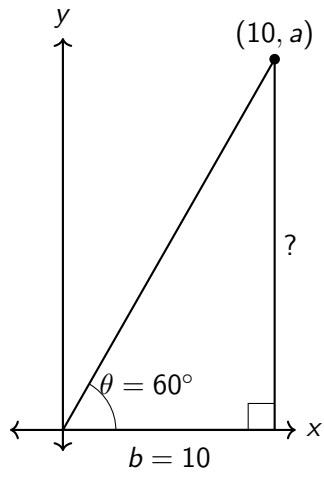


Opposite	The side across from the angle
Adjacent	The side next to the angle
Theta	A Greek letter used to represent the angle measure
tangent	The ratio of the opposite side to the adjacent side

Find the height of a triangle with base $b = 10$ and angle 60 degrees

$$\tan(\theta) = \frac{opposite}{adjacent}$$

Substitute the given values and use your calculator for $\tan(60^\circ)$



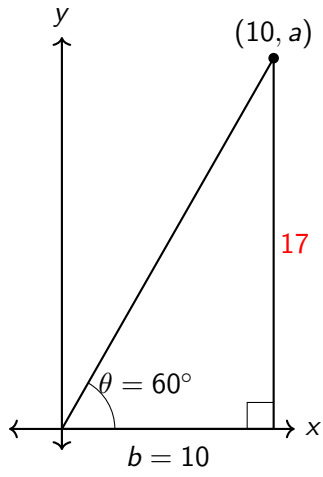
Find the height of a triangle with base $b = 10$ and angle 60 degrees

$$\tan(\theta) = \frac{opposite}{adjacent}$$

Substitute the given values and use your calculator for $\tan(60^\circ)$

$$\tan(60^\circ) = \frac{a}{10} \approx 1.732$$

$$a = 10 \times 1.732 \approx 17.32$$



Learning Target: I can find an angle measure using inverse tangent.

CCSS.HSG.SRT.C.8 Use trig ratios and the Pythagorean Theorem to solve problems 10.2 Tuesday 18 April

Do Now: Given right $\triangle$ shown, find its height b to the *nearest tenth*.

Lesson: The inverse tangent function, $\tan^{-1}$

Homework: Complete the classwork practice, Deltamath problem set