GQ: How do we apply algebra to equations with literals?

HSA.CED.A.4 Rearrange formulas to highlight a quantity of interest 11.2 Friday 24 April

Do Now: Submit Present; Answer the question by chat

- Give an example of a *literal*, a value expressed with a symbol (do not use x)

Chess Club tournament today 1:30 - 2:30 (LiChess)

Lesson: Operations on radicals (square roots)
Applications with literals from trigonometry, science

Deltamath practice problems

Homework: Complete handout problem set, due by 10:00pm

Properties of square roots

Definition: $(\sqrt{a})^2 = a$ note: $(-\sqrt{a})^2 = a$

Addition

$\sqrt{b} + \sqrt{b} = 2\sqrt{b}$, but $\sqrt{a} + \sqrt{b} = \sqrt{a} + \sqrt{b}$

Multiplication

$\sqrt{c} \times \sqrt{d} = \sqrt{cd}$

Inverse (reciprocal)

$$\sqrt{\frac{1}{k}} = \frac{1}{\sqrt{k}}$$

Notation conventions

Greek letters:

α alpha, β beta, γ gamma, δ delta, ϵ epsilon

π pi, θ theta, σ sigma, ϕ phi

Capital Greek letters: Σ Sigma, Δ Delta

Angle measures: 45°, $\frac{5}{6}\pi$ radians, x, θ, A

Trigonometry situations

The tangent of an angle in a right triangle is the ratio of the opposite side's length to the length of the leg adjacent to the angle

Solve for the missing side length, x

1. $\tan\theta = \dfrac{x}{10}$

2. $\tan\theta = \dfrac{20}{x}$

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Solve each equation for the unknown

1. $4x - x\sqrt{3} = 11$
2. $5\pi x - 2\pi x = \pi x + 14$

GQ: How do we document our mathematical reasoning?

HSA.CED.A.4 Rearrange formulas to highlight a quantity of interest 11.1 Wed. 22 April

Written work must be submitted following standard protocols

1. Title and label (lined paper)

   10.2 Geometry First, Last name
   11.1 Literals (*Assignment*)
   22 April 2020 (*Date*)

   Number problems down the left (drawings, notes on the right)
2. Photograph and convert to pdf with an app:
   Adobe Scan, Evernote Scannable, or Genius Scan
3. Login and upload to Gradescope.com (class code: MG8X2G)