

- \*Get a calculator.
- \*Get in your assigned seat.
- \*Complete the Bell work below.

Determine the length of a segment with endpoints of  $(-4, 5)$  and  $(7, -8)$ .

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$$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

$$d = \sqrt{(7 - (-4))^2 + (-8 - 5)^2}$$

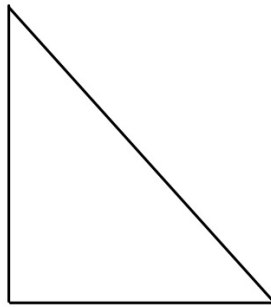
$$= \sqrt{(11)^2 + (-13)^2}$$

$$= \sqrt{121 + 169}$$

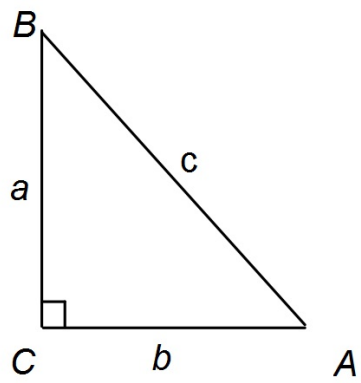
$$= \sqrt{290}$$

$$= 17.03$$

**Trigonometry** (from [Greek \*trigōnon\*](#), "triangle" and [metron](#), "measure"<sup>[1]</sup>) is a branch of [mathematics](#) that studies relationships involving lengths and [angles](#) of [triangles](#). The field emerged in the [Hellenistic world](#) during the 3rd century BC from applications of [geometry](#) to astronomical studies.<sup>[2]</sup>



Trigonometry is used with right triangles.



$$\text{sine (sin)} = \frac{\text{opposite}}{\text{hypotenuse}}$$

$$s = \frac{o}{h}$$

$$\text{cosine (cos)} = \frac{\text{adjacent}}{\text{hypotenuse}}$$

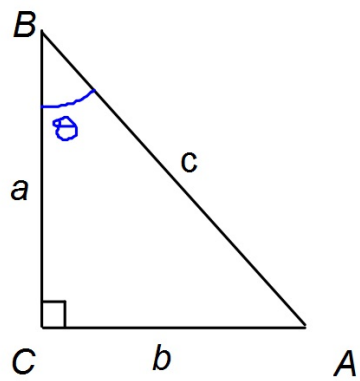
$$c = \frac{a}{h}$$

$$\text{tangent (tan)} = \frac{\text{opposite}}{\text{adjacent}}$$

$$t = \frac{o}{a}$$

soh cah toa

$$\sin B = \frac{b}{c} \quad \cos B = \frac{a}{c} \quad \tan B = \frac{b}{a}$$



$$\sin B = \frac{4}{5}$$

$$\sin 30 = \frac{1}{2}$$

$$\cos B = \frac{3}{5}$$

$$\cos 30 = \frac{\sqrt{3}}{2}$$

$$\tan B = \frac{4}{3}$$

$$\tan 30 = \frac{1}{\sqrt{3}}$$

$$\sin A = \frac{3}{5}$$

$$\sin 60 = \frac{\sqrt{3}}{2}$$

$$\cos A = \frac{4}{5}$$

$$\cos 60 = \frac{1}{2}$$

$$\tan A = \frac{3}{4}$$

$$\tan 60 = \sqrt{3}$$

