March 11, 2014

Geometry T3 Review Day 2

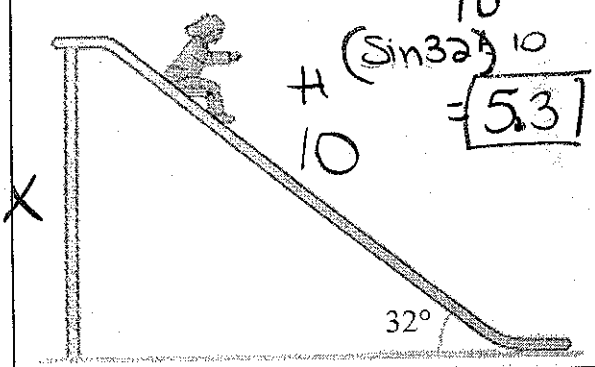
Target: Analyze and discuss the key concepts of T3

A slide 10 meters long makes an angle of 32° with the ground. How high is the top of the slide above the ground? Round to two decimal places.

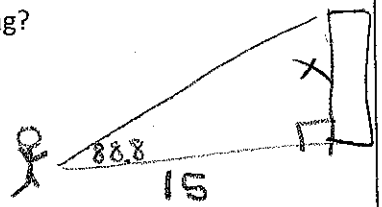
$\sin 32 = \frac{x}{10}$

$(\sin 32)\,10 = x$

$5.3 = x$



Jessica is standing 15 feet away from a skyscraper in New York when she measures the angle of elevation to the top of the building as 88.8°. To the nearest foot, how tall is the building?

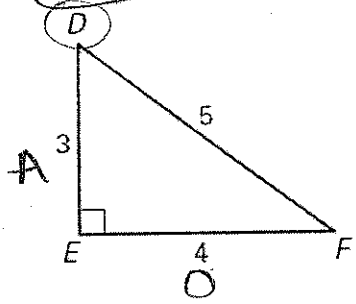


$\tan 88.8 = \frac{x}{15}$

716.1

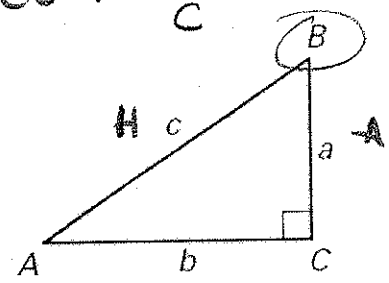
Use the diagram to find **tan D**.

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

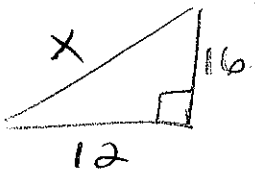


Use the diagram to find **cos B**.

$\cos B = \frac{a}{c}$



The foot of a ladder is placed 12 feet from a wall. If the top of the ladder rests 16 feet up on the wall, how long is the ladder?



$16^2 + 12^2 = x^2$

$256 + 144 = x^2$

$400 = x^2$

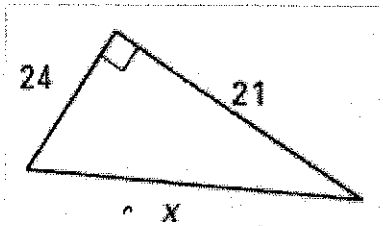
$x = 20$

Find the geometric mean of 9 and 17.

$\frac{9}{x} = \frac{x}{17}$ $\quad x^2 = 153$

$x = 12.41$

Solve for x.



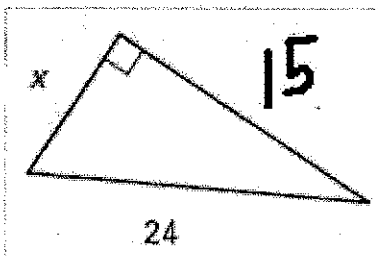
$21^2 + 24^2 = x^2$

$441 + 576 = x^2$

$x^2 = 1017$

$x = 31.89$

Solve for x.



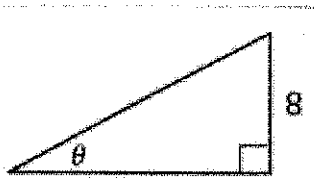
$15^2 + x^2 = 24^2$

$225 + x^2 = 576$

$x^2 = 351$

$x = 18.73$

Solve for $m\angle\theta$

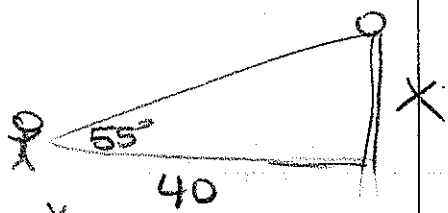


$\tan\theta = \frac{8}{24}$

$\tan^{-1}\left(\frac{8}{24}\right)$

$\theta = 18.4$

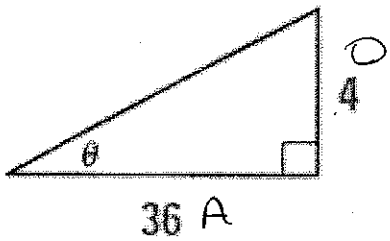
You stand 40 feet from the base of a flag pole. You measure the angle of elevation to be 55°. Estimate the height of the flagpole.



$\tan 55 = \frac{x}{40}$

$x = 57.1$

Solve for $m\angle\theta$



$\tan\theta = \frac{4}{36}$

$\tan^{-1} = \frac{4}{36}$

$\theta = 6.34°$