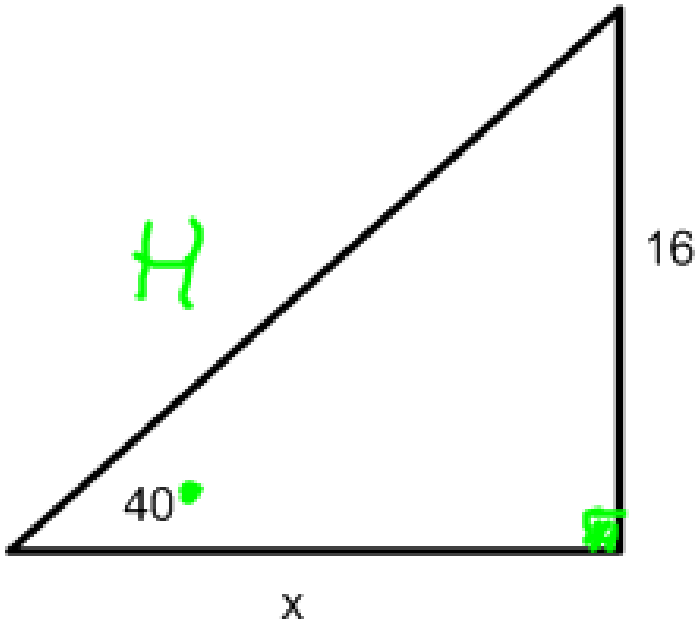
3 a)



SOH CAH TOA

$\tan\theta = \frac{O}{A}$

$\tan 40 = \frac{16}{x}$

$x \cdot 0.839 = \frac{16}{x} \cdot x$

$\frac{0.839}{0.839}x = \frac{16}{0.839}$

$x = 19.27$

Right Angle Trionometry September 9

Learning Target:

1. I can find the missing angle of a right angle triangle using Trig ratios

$$\sin\theta = \frac{O}{H}$$

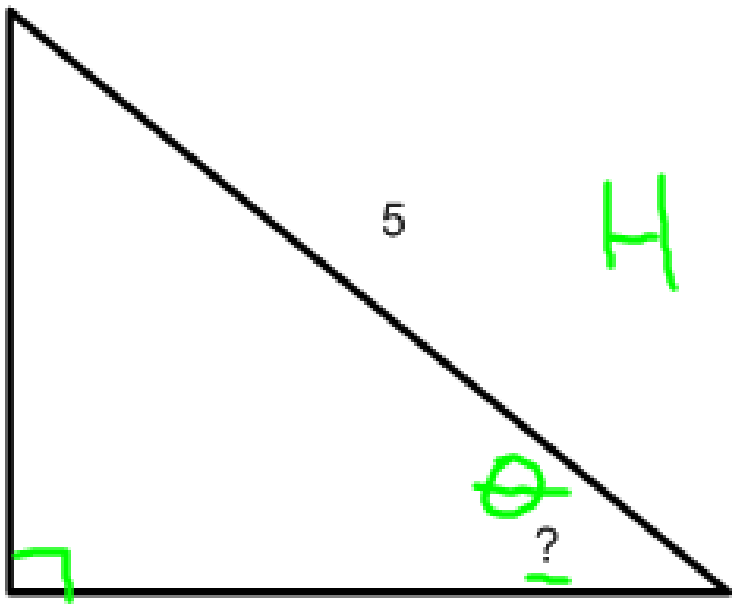
$$\cos\theta = \frac{A}{H}$$

$$\tan\theta = \frac{O}{A}$$

~~SOA~~ CAH TOA

SOH

Finding sides - Trig Ratios



H

O

A

Finding Angles → Trig Ratio

$\sin\theta = \frac{O}{H}$

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

$\sin\theta = 0.6$

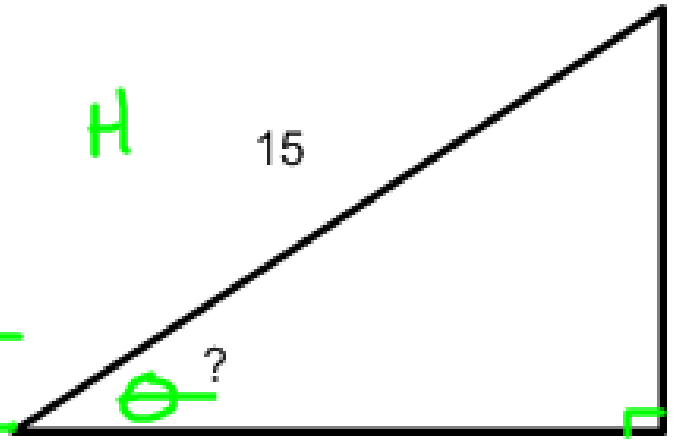
$(\sin^{-1})\sin\theta = 0.6$

$\theta = \sin^{-1}(0.6)$

$\theta = 36.87$

Find the missing angle:

SOH CAH TOA



H

O

A

$\cos\theta = \frac{A}{H}$

$\cos\theta = \frac{7.5}{15}$

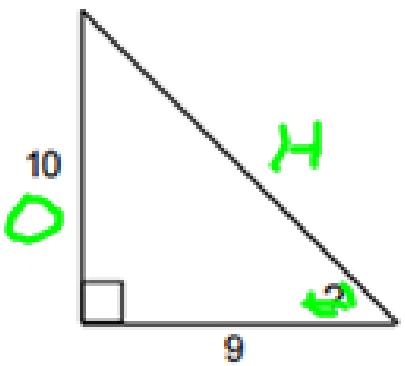
$\cos\theta = 0.5$

$\cos^{-1}(\cos\theta) = \cos^{-1}(0.5)$

$\theta = 60^\circ$

Find the indicated missing angle:

1



$\tan\theta = \frac{O}{A}$

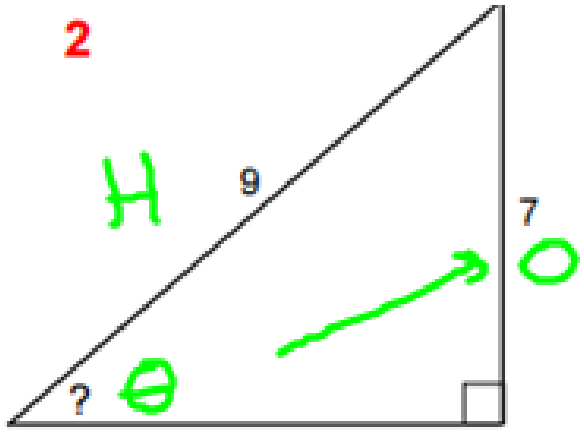
$\tan\theta = \frac{10}{9}$

$\tan\theta = 1.11$

$\theta = \tan^{-1}(1.11)$

$\theta = 48.01$

2



$\sin\theta = \frac{O}{H}$

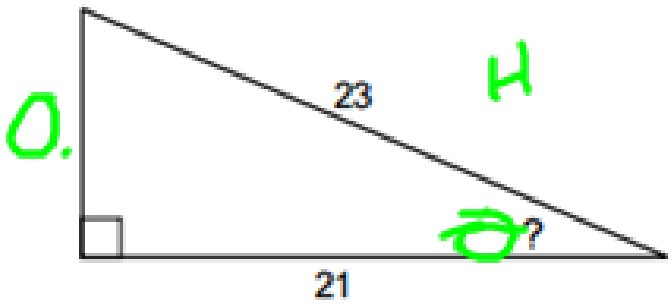
$\sin\theta = \frac{7}{9}$

$\sin\theta = 0.77$

$\theta = \sin^{-1}(0.77)$

$\theta = 51.06°$

3



$\cos\theta = \frac{21}{23}$

$\cos\theta = 0.913$

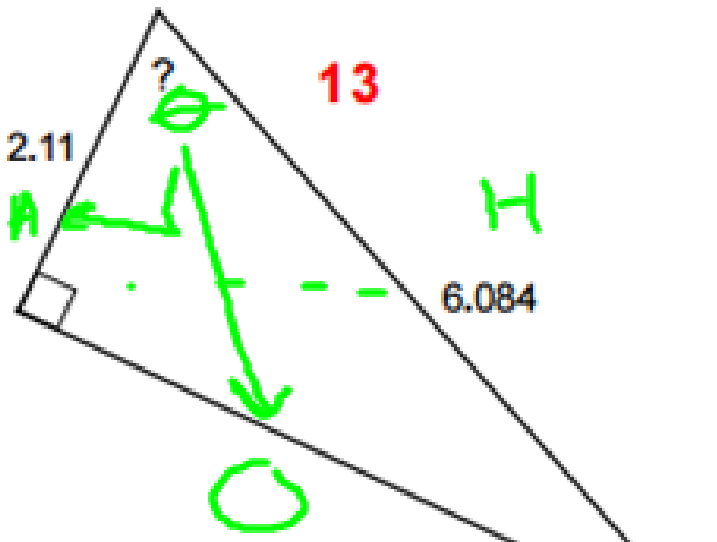
$\theta = \cos^{-1}(0.913)$

$\theta = 24.07$

Find the indicated missing angle.

SOH CAH TOA

13



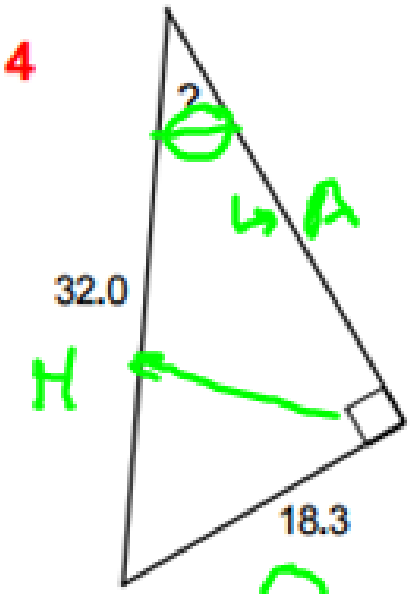
$\cos\theta = \frac{2.11}{6.084}$

$\cos\theta = 0.347$

$\theta = \cos^{-1}(0.347)$

$\theta = 69.71$

14



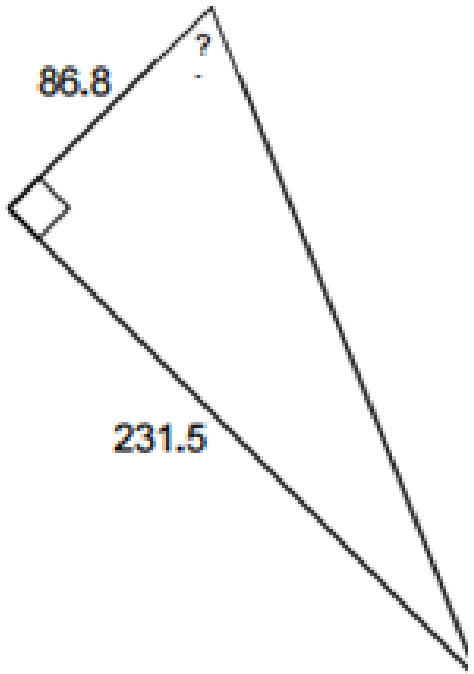
$\sin\theta = \frac{O}{H}$

$\sin\theta = \frac{18.3}{32}$

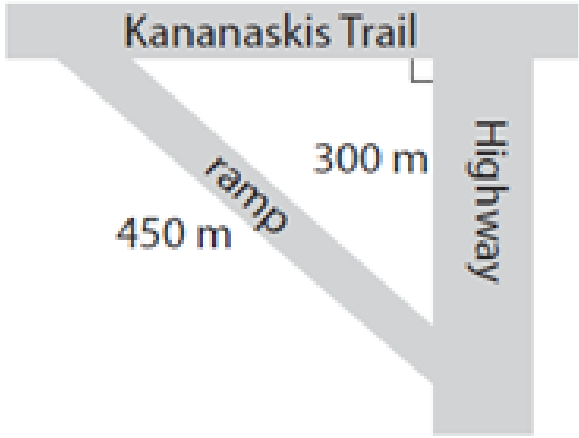
$\theta = \sin^{-1}(0.519)$

$\theta = 34.88$

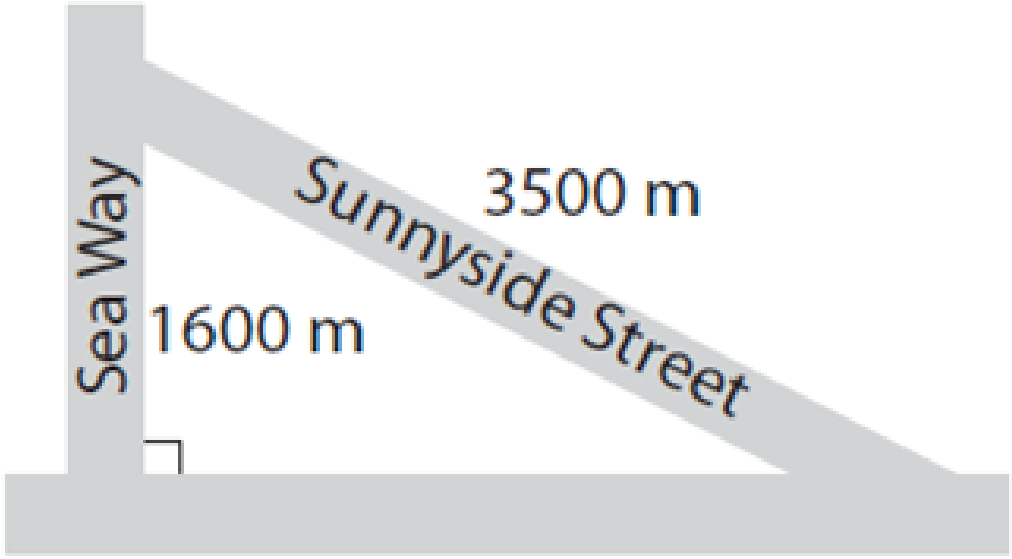
15



A highway construction crew is repairing the Kananaskis Trail on-ramp for the Trans-Canada highway in Alberta. The length of the ramp is 450 m, and it joins the highway 300 m from the Kananaskis Trail. What angle does the ramp make with the highway, to the nearest degree?



Jana Lee is a cartographer. She is creating a map of a new housing development. She needs to include the angles of ntersection on the map. Given the length of Sunnyside Street and Sea Way, calculate the angle between the two streets.



Try these:

Page 318, #1 - 5