

AW Math 11

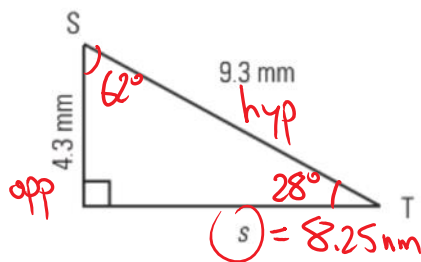
Day 4: Trig Ratio Review (SOHCAHTOA) Finding Angles class notes

Our focus today is on calculating angles. Remember, calculating angles involves using the functions:

2nd or **INV** or **SHIFT**, followed by the appropriate ratio, depending on your calculator.

Solving triangles means finding all angles and sides whose measures are not given.

Example 1: Solve the triangle below:



1. Side "s" $c^2 - a^2 = b^2$
 $9.3^2 - 4.3^2 = b^2$
 $b^2 = 68$
 $b = \sqrt{68}$
 $b = 8.25 \text{ mm}$

SOH CAH TOA

~~Example 2: Solve for QS, ST and RT~~



2. $\angle T \sin \theta = \frac{4.3}{9.3} = 0.4624$

$2^{\text{nd}} \sin 0.4624 = 28^\circ$

$\angle S$ all angles of triangle add up to 180

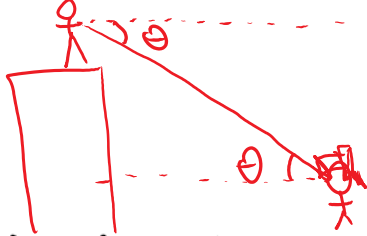
$180 - 90 - 28 = 62^\circ$

Some terms to remember:

Angle of Elevation:



Angle of Depression:



angle of Depression is the same as angle of elevation.

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Day 4: Trig Ratio Review - Finding Angles assignment

PART A: Find the missing angles. Round answers to 2 decimal places.

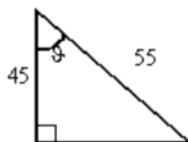
1. $\sin A = \frac{3}{4} = 0.75$ $\angle A = 48.6^\circ$ \rightarrow 2nd function!
 2. $\cos A = \frac{7}{8}$ $\angle A =$ _____

3. $\tan A = \frac{5}{4}$ $\angle A =$ _____
 4. $\sin A = \frac{2}{3}$ $\angle A =$ _____

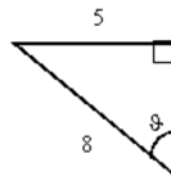
5. $\cos A = \frac{1}{2}$ $\angle A =$ _____
 6. $\tan A = \frac{9}{10}$ $\angle A =$ _____

PART B: Find the missing angle (θ) for each of the following triangles

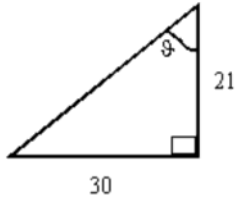
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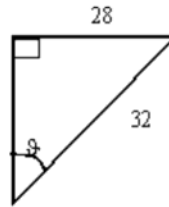
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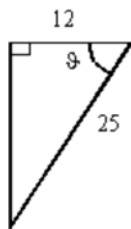
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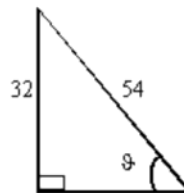
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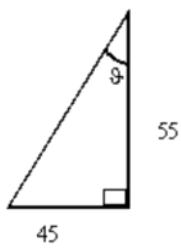
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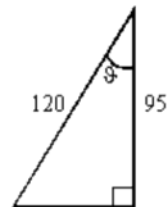
12.



13.



14.



PART C: Find the missing angle (θ) for the following problems:

1. What is the angle of depression from the top of a 65-metre cliff to an object 48-metres from its base?
2. At what angle to the ground must you place a support if it is 6.8 metres long and must reach 4.2 metres up the side of a tower?
3. At what angle to the ground is an 8-metre long conveyor belt if it is fastened 5 metres from the base of a loading ramp?

