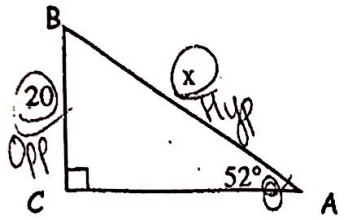
...id x. (this one is a little different!)



$\sin(52) = \frac{20}{x}$

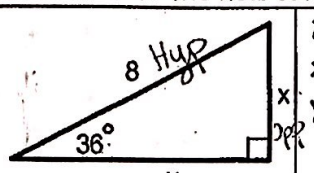
$.7880x = 20$

$x = 25.38$

1. Mark angle A (since it is the one we have a measure for)
2. Label the other two sides *in relation to* angle A (opp, hyp)
3. Circle these sides.
4. Decide which trig function you can make with Opp, Hyp (sin)
5. Write the equation, using the variable x for the missing side. Be careful here, this is different than the others. Where does x go?
6. Solve the equation for x, using algebra.

For each of the following, write the equation to find the missing value. Then rewrite the equation that you will enter in your calculator. Round your final answer to the nearest tenth.

1.
$x \approx$ 4.70
$y \approx$ 6.47



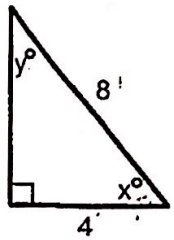
$\sin(36) = \frac{x}{8}$

$.5878 = x/8$

$\cos(36) = \frac{y}{8}$

$.8090 = y/8$

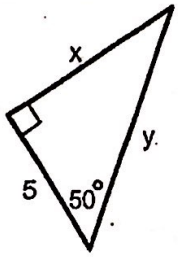
2.
$x \approx$ 60°
$y \approx$ 30°



$x = \cos^{-1}(4/8) = 60$

$y = \sin^{-1}(4/8) = 30$

3.
$x \approx$ 6
$y \approx$ 7.8

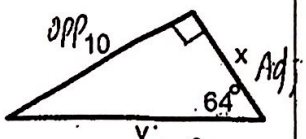


$\cos(50) = 5/y$

$.6428 = 5/y$

$.6428y = 5$

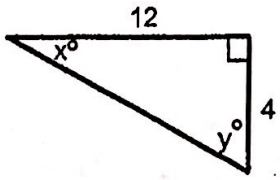
4.
$x \approx$ 4.88
$y \approx$ 11.1



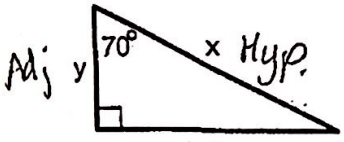
$\tan 64 = 10/x$

$\sin 64 = 10/y$

5.
$x \approx$ 18.4
$y \approx$ 71.6

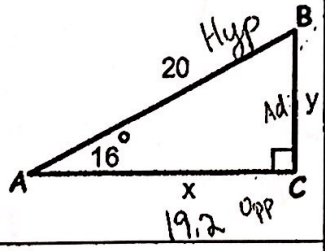


6.
$x \approx$ 7.7
$y \approx$ 2.6



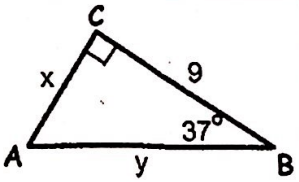
$x = \sin(70) = \frac{7.2}{x}$

7.
$x \approx$ 19.2
$y \approx$ 5.5
$m\angle B =$ 73.7°



$\sin^{-1}(19.2/20)$

8.
$x \approx$ 6.8
$y \approx$ 11.3
$m\angle A =$ 53°



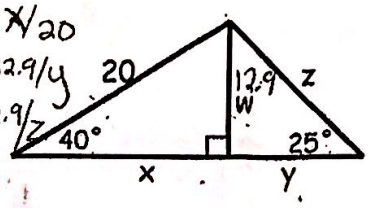
9.
$w \approx$ 12.9
$x \approx$ 15.3
$y \approx$ 37.7
$z \approx$ 30.5

$\sin(40) = w/20$

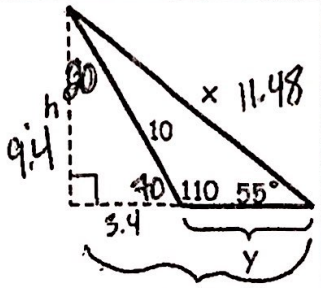
$\cos(40) = x/20$

$\tan(25) = 12.9/y$

$\sin(25) = 12.9/z$



10.
$h \approx$ 9.4
$x \approx$ 11.48
$y \approx$ 3.2



$h = \sin(70) = h/10$

$h = 9.4$

or

$\cos(20) = h/10$

$6.6 - 3.4$

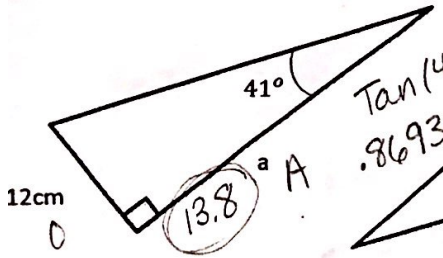
$\sin(55) = \frac{9.4}{x}$

$11.48 = x$

SOHCAHTOA Code Breaker

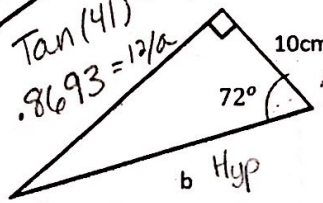
To	Pub	Obtuse	90	Why	It	Go	Shop	Because	Reflex
9	16	34	11	14	60	50	41	45	40
The	**How**	**What**	**Was**	**Sine**	**Cos**	**Degrees**	**Angle**	**Beach**	**On**
47	18	10	27	65	15	69	62	5	26
Not	**Like**	**Over**	**30**	**Tan**	**Did**	**Right**	**Hot**	**Triangle**	**Acute**
23	48	38	79	83	32	33	40	2	56

Find the missing side or angle labelled (rounded to the nearest whole number), then use the code above to translate your answer into part of the coded joke on the other side.



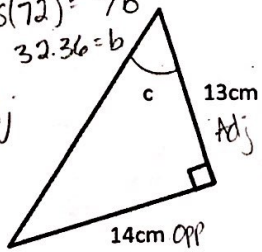
$\tan(41) = 12/a$

$.8693 = 12/a$



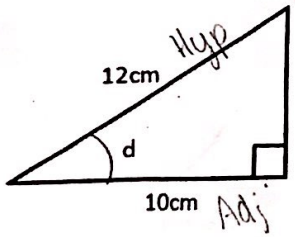
$\cos(72) = 10/b$

$32.36 = b$



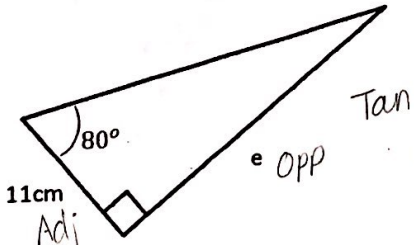
$\tan^{-1}(14/13)$

47.12



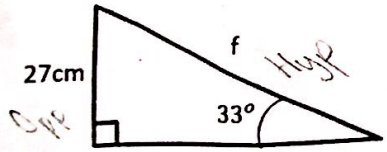
$\cos^{-1}(10/12)$

33.56



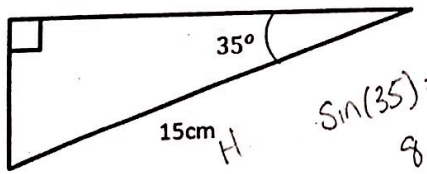
$\tan(80) = e/11$

$62.38 = e$



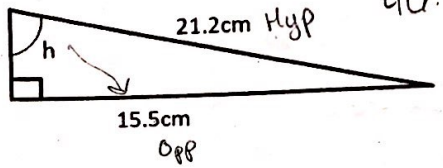
$\sin(33) = 27/f$

$49.57 = f$



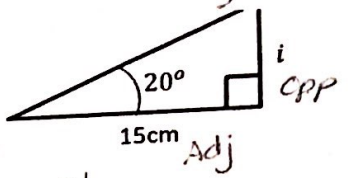
$\sin(35) = g/15$

$8.60 = g$



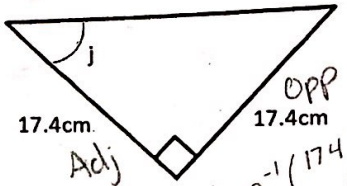
$\sin^{-1}(15.5/21.2)$

46.98

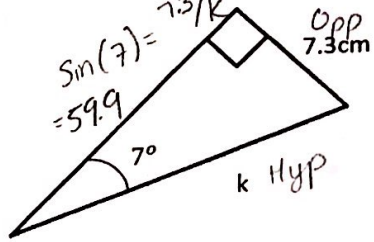


$\tan(20) = i/15$

$5.46 = i$

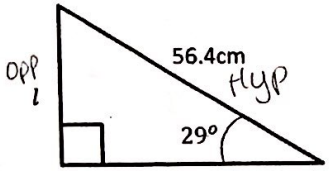


$\tan^{-1}(17.4/17.4)$



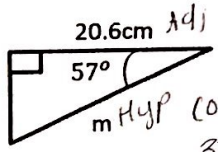
$\sin(7) = 7.3/k$

$= 59.9$



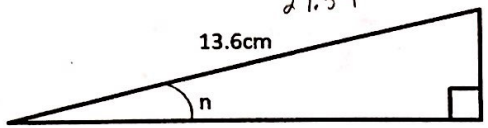
$\sin(29) = l/56.4$

27.34



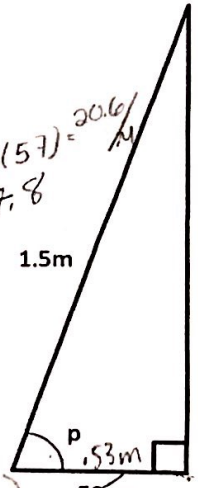
$\cos(57) = 20.6/m$

37.8



$\sin^{-1}(2.7/13.6)$

11.45



$\cos^{-1}(.53/1.5)$

69.3

As you decode your answers, fill in the gaps below.

Why did the obtuse angle go to the beach?

Because it was over 90 degrees