

Achieved Trigonometry Practice #2

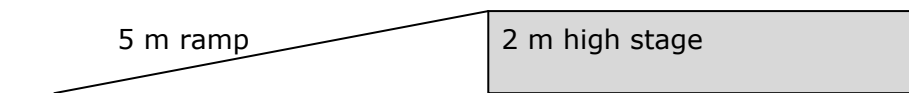
1. Some students want to make a Jamaican flag to wave at a reggae concert. The flag looks like this:



They decide their flag should be 1.8 m wide and 1.2 m high.

How long are the diagonal stripes on their flag?

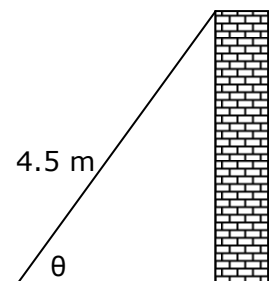
2. There is a ramp up to the concert stage. The ramp is made of 5 metres of board and is 2 metres high.



How far back does the ramp start from the stage?

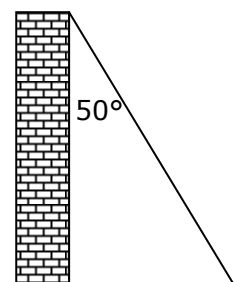
3. The wiring to the speakers has a 4.5 metre stretch which goes over a wall. The wall is 2.5 metres high.

What angle does the wire form with the ground?



4. The wiring coming down the other side makes an angle of 40° with the wall. The wall is 2.5 metres high.

How long is the wire from the top of the wall to the ground?

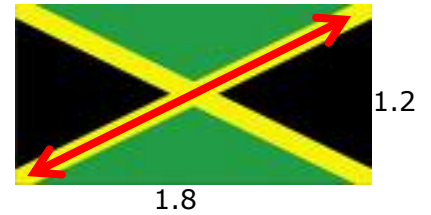


Answers: Achieved Trigonometry Practice #2

1. Some students want to make a Jamaican flag to wave at a reggae concert. The flag looks like this:

They decide their flag should be 1.8 m wide and 1.2 m high.

How long are the diagonal stripes on their flag?

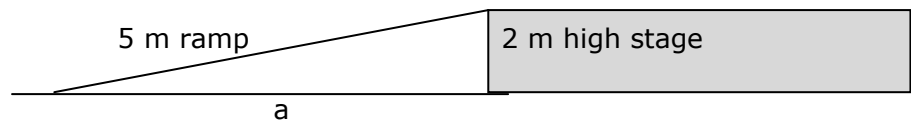


Long side, so we use: $h^2 = a^2 + b^2$

$$h^2 = 1.8^2 + 1.2^2 = 4.68.$$

$$h = \sqrt{4.68} = 2.16 \text{ m}$$

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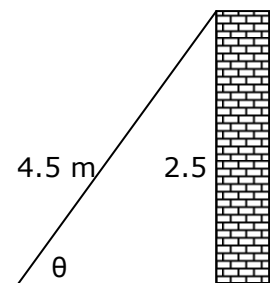
Short side, so we use the form: $a^2 = h^2 - b^2$

$$a^2 = 5^2 - 2^2 = 21.$$

$$a = \sqrt{21} = 4.58 \text{ m}$$

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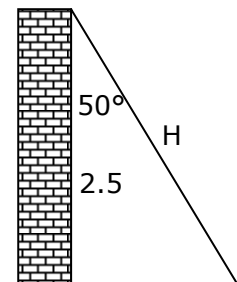
There is an angle, so we use $S^O_H C^A_H T^O_A$.

We have the H and O, so we use S^O_H .

$$\theta = \sin^{-1}(O \div H) = \sin^{-1}(2.5 \div 4.5) = 33.74^\circ$$

4. The wiring coming down the other side makes an angle of 40° with the wall. The wall is 2.5 metres high.

How long is the wire from the top of the wall to the ground?



There is an angle, so we use $S^O_H C^A_H T^O_A$.

We have the A and we want the H, so we use C^A_H .

$$H = A \div C = 2.5 \div \cos 50^\circ = 3.89 \text{ m}$$