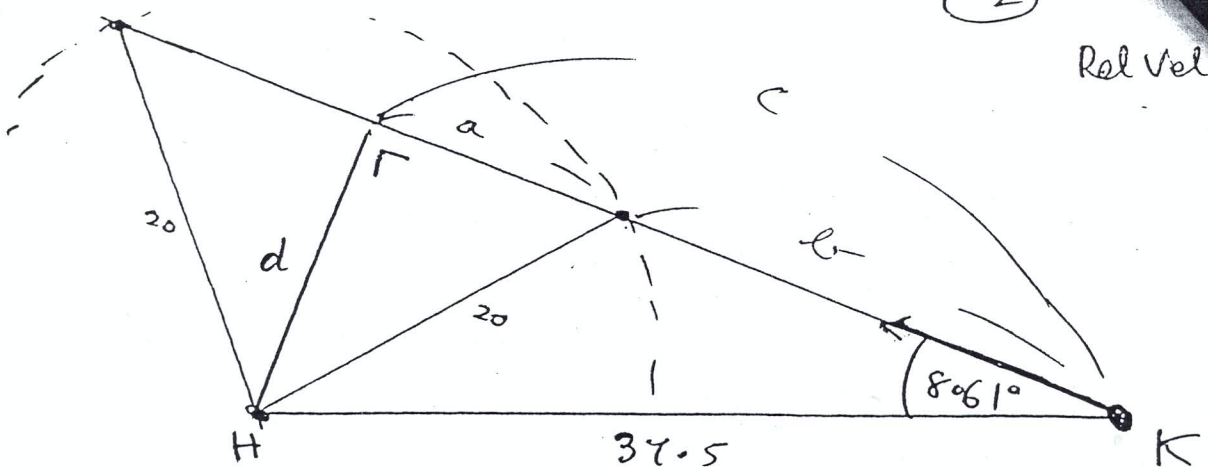


(11)

(2)

Rel Vel



STEP 1

$d =$ shortest distance between them
 $= 37.5 \sin \theta = 37.5 \left(\frac{15}{14.56} \right) = 5.62$

STEP 2

Draw circle around H, radius 2.

STEP 3

Find a , using Pythagoras' Theorem.

$$a^2 + d^2 = 20$$

$$a^2 + (5.62)^2 = 20 \Rightarrow \boxed{a = 19.19}$$

STEP 4

Find c , by Pythagoras' Theorem.

$$c^2 + d^2 = 37.5^2$$

$$\Rightarrow c^2 + (5.62)^2 = 1406.25 \Rightarrow c^2 = 1374.67$$

$$\Rightarrow \boxed{c = 37.08}$$

~~72~~ STEP 5

Find b by subtraction

$$b = c - a = 37.08 - 19.19 = 17.89$$

TIME OUT OF SIGNAL = $\frac{|b|}{\text{Speed}} = \frac{17.89}{17.88} = 1 \text{ hour.}$

TIME IN SIGNAL = $\frac{2|a|}{\text{Speed}} = \frac{38.38}{17.88} = 2.146 \text{ hrs.}$

Daddy's Silly Triangle

