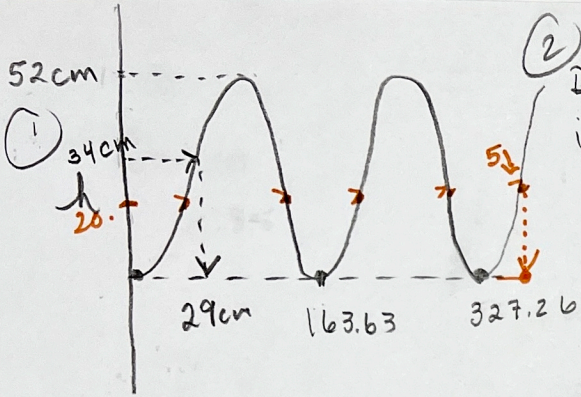

(1)

(2) Distance travelled with one complete revolution of the tire is $C = 2\pi r$

$= 2\pi(26)$

$= 52\pi$

$\doteq 163.363$ cm

$r = \frac{1}{2}d$

$= \frac{1}{2}(52)$

$= 26$

(3) to find how many times the wheel spins in 0.1km we first need to convert km to cm

$$\frac{0.1\text{km}}{1\text{km}} = \frac{x\text{cm}}{100\,000\text{cm}}$$

$x = 10{,}000$cm

distance travelled in cm

(4) So, how many cycles is that?

$10{,}000 \div 163.63 \doteq 61.21$

So the tire made 61.21 turns all the way around in 0.1km

(5) Now we know that after 6 cycles the Nail is back on the ground $h = 0$

So we now want to know how high the Nail is after 0.21 of a turn

We need to convert this 0.21 of a turn into cm.

$$\frac{163.63}{x} = \frac{1\text{ cycle}}{0.21\text{ cycles}}$$

$$x = \frac{163.63 \times 0.21}{1}$$

$\doteq 34.362$ cm

The answer of 29cm is estimated from using the graph. (Not accurate at all & you will later make an equation for a more precise answer)

c) Now, for the 5th time you will use a ruler at 20 on the y axis and count 5x that you cross the graph.

follow the orange > > > > > ↓

again they ESTIMATED the 360cm simply from the graph.