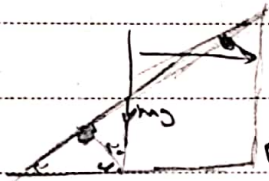


و) حل = 0.14

$$\Rightarrow a = \frac{v(-F)}{r} = \frac{v m / r}{r} \rightarrow m a = F = 12 N$$

- 12

$$\Rightarrow F_n = \omega N \rightarrow F_y = \sqrt{5} \rightarrow \tan^{-1} \frac{\sqrt{5}}{\omega} \rightarrow 39.46^\circ$$



فأشهر ل  
بدر فترى توبين

$$mg \sin \theta \leftarrow mg \text{ ثقل}$$

$$F \cos \theta \leftarrow F \text{ قوة}$$

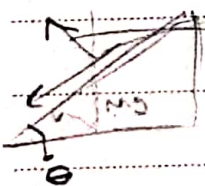
- 12

$$\Rightarrow \omega = \frac{F \sin \theta}{r} \rightarrow F = \frac{1000}{\sqrt{r}}$$

$$F_n = \frac{1000 \sqrt{r}}{r} \times \frac{1}{r} + \frac{1000 \times \sqrt{r}}{r} \Rightarrow \frac{1000 \sqrt{r}}{r} + \frac{1000 \sqrt{r}}{r} = \frac{2000 \sqrt{r}}{r}$$

- 12

$$\Rightarrow a = \frac{v}{r} = \frac{10 m/s}{r} \rightarrow F_n = 12 N$$



$$mg \sin \theta \rightarrow mg \sin \theta = 12 N$$

$$mg \cos \theta \rightarrow \theta = \sin^{-1} \frac{12}{9} = 16.27^\circ$$

$$\Rightarrow mg \cos \theta = F_n$$

- 12

$$\Rightarrow m = \frac{v}{a} = \frac{10}{1.2} \rightarrow m = 8.33 \text{ kg}$$

$$v \sqrt{v} (1/r + g) = \frac{v}{r} \sqrt{v} \sqrt{r} \rightarrow a \leftarrow \text{دور} \leftarrow \text{ال}$$

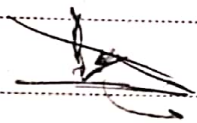
$$v \sqrt{v} (g - 1/r) = \frac{v}{r} \sqrt{v} \sqrt{r} \rightarrow a \leftarrow \text{دور} \leftarrow \text{ال}$$

$$\sum a = \sum \frac{F}{m} \quad \leftarrow a = \frac{F}{m} \quad \leftarrow F = ma \quad \leftarrow \sum F$$

$$\Rightarrow \text{بل} \rightarrow +1 \rightarrow \boxed{2x+2} \rightarrow \sum = x^2 + 2x \rightarrow \wedge \text{بجی} \rightarrow +1 \wedge \text{بجی} \rightarrow +2$$

$$\text{بجی} \rightarrow -2 \text{ بجی} \rightarrow -1 \text{ بجی} \rightarrow -4 \text{ بل} \rightarrow \boxed{+10}$$

$$\Rightarrow \frac{10}{2} = \boxed{+5} \rightarrow \boxed{2+5 = +7} \rightarrow \boxed{+7 \times 10}$$



رغله افقی  
مركب:

$$a - T = \frac{T + 2/3}{3}$$

(الف)

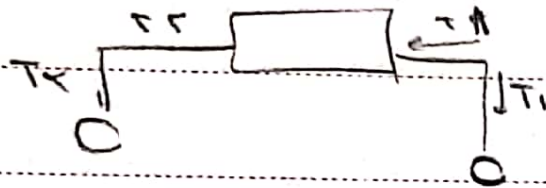
$$\Rightarrow 10 - 2T = T + 2/3 \rightarrow 2T = 14/3 \rightarrow \boxed{T = 7/3 \text{ N}}$$

اگر به سمت چپ ایده آل بگیریم در همان نقطه که کل می شود آ وجود ندارد و آنرا

$$\cancel{mg \sin \theta} = ma \quad \boxed{a = 6/9}$$

باید بیشتر باشد  $\leftarrow T > a$

$$\Rightarrow \frac{6}{9} = \frac{T}{3} \rightarrow \boxed{T = 14/3 \text{ N}}$$



$\leftarrow 4V$

$$\Rightarrow \frac{9k \cdot I_1}{10} = \frac{I_1 - I_2}{1} = \frac{I_2 - 0.1mA}{5}$$

$$\Rightarrow 90k \cdot I_1 - 9I_2 = 10I_2 - 0.1mA \rightarrow 9I_2 + 10I_2 = 11V$$

$$\Rightarrow V_{AF} = 1I_1 = 10I_2 \rightarrow V_{AF} = 10I_1 - 10I_2 \quad \text{If } I_1 = 0 \Rightarrow I_2 = \frac{11V}{20} = 0.55V$$