① 2ND TEST 2ND QTR

$1500\,W \rightarrow \left[1500\,\frac{J}{s}\right]$

$$P = \frac{E}{\Delta t}$$

$$1500\,\frac{J}{s} = \left[\frac{E}{6\,MIN}\right]$$

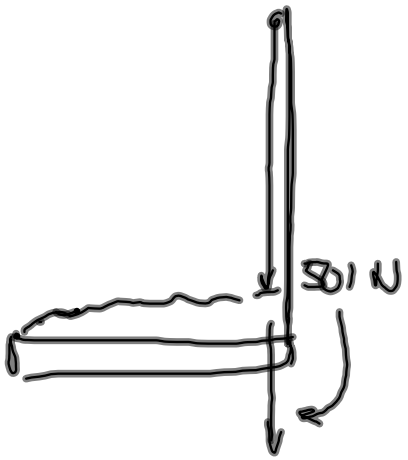
$$\frac{60s}{1\,MIN}\left[1500\,\frac{J}{s}\right](6\,MIN) = E$$

$$540{,}000\,J = E$$

$$5.4 \times 10^5\,J = E$$

$5.4e{+}05 \rightarrow$ W/A INPUT

TEST #(2)



$MA = \frac{F_o}{F_I}$

$5 = \frac{501}{F_I}$

SITE HAS A PULLEY W/ $MA = 5$ $F_I = 100.2\,N$

#4 A MACHINE IS 76% EFFICIENT

$$\eta \rightarrow e = \left(\frac{W_{OUT}}{W_{IN}}\right) 100\%$$

$$76\% = \frac{x}{440J}(100\%)$$

$$x = 334.4\,J$$

$d = rt$

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$\Delta d = V_{ave}\,\Delta t$?

$= (7.5\ \frac{m}{s})$

$V_i = 15\ m/s$ $\quad V_f = 0$

$a = -7\ m/s^2$

$d = V_i t + \frac{1}{2} a t^2$ (? ?)

$\frac{V_f + V_i}{2} = V_{ave}$

$a = \frac{V_f - V_i}{\Delta t}$

$V_f^2 = V_i^2 + 2a\Delta d$

$0 = (15)^2 + (2)(-7)(\Delta d)$

$0 = 225 - (14)(\Delta d)$

$-225 = -14(\Delta d)$

$\Delta d = \frac{-225}{-14} = 16\ m$

(6)

$m = 1.0 \times 10^3 \text{ kg}$

$p = 2.0 \times 10^4 \frac{\text{kg m}}{\text{s}}$

$v = d/t$

$p = mv$

$v = \frac{p}{m} = \left(\frac{2 \times 10^4}{1 \times 10^3}\right) = 2 \times 10^1 \text{ m/s}$