

24. Novembro - 2016

2ª Relação

3.- $m = 10 \text{ kg}$

$v = 2 \text{ m/s} \rightarrow 4 \text{ m/s em } t = 1 \text{ s} \rightarrow a = \frac{\Delta v}{t} = \frac{4-2}{1} = 2 \text{ m/s}^2$

$\Sigma F = m \cdot a = 10 \cdot 2 = \underline{\underline{20 \text{ N}}}$

8.- $m = 50 \text{ kg}$

$F = 100 \text{ N}$

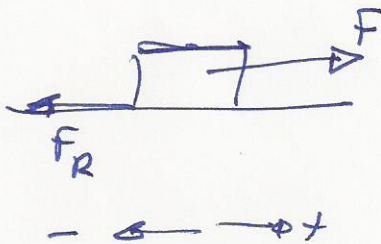
$a \text{ (real)} = 0,5 \text{ m/s}^2$

$\Sigma F = m \cdot a$

$F - F_R = m \cdot a$

$100 - F_R = 50 \cdot 0,5$

$F_R = 100 - 50 \cdot 0,5 = \underline{\underline{75 \text{ N}}}$



1ª Relação

1.- $f = 20 \text{ N}$

$a = 5 \text{ m/s}^2$

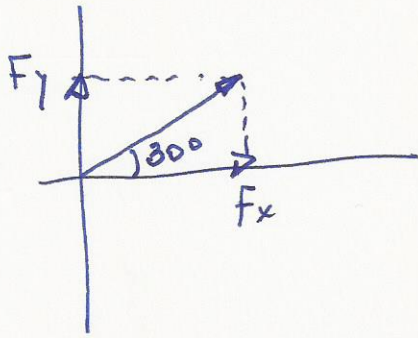
$\left. \begin{array}{l} f = 20 \text{ N} \\ a = 5 \text{ m/s}^2 \end{array} \right\} \rightarrow F = m \cdot a \rightarrow m = \frac{F}{a} = \frac{20}{5} = 4 \text{ kg}$

2.-

$a = \frac{\Delta v}{t} = \frac{1,7/3,6}{1} = 0,5 \text{ m/s}^2$

$F = 600 \text{ N} \rightarrow m = \frac{F}{a} = \frac{600}{0,5} = 1200 \text{ kg}$

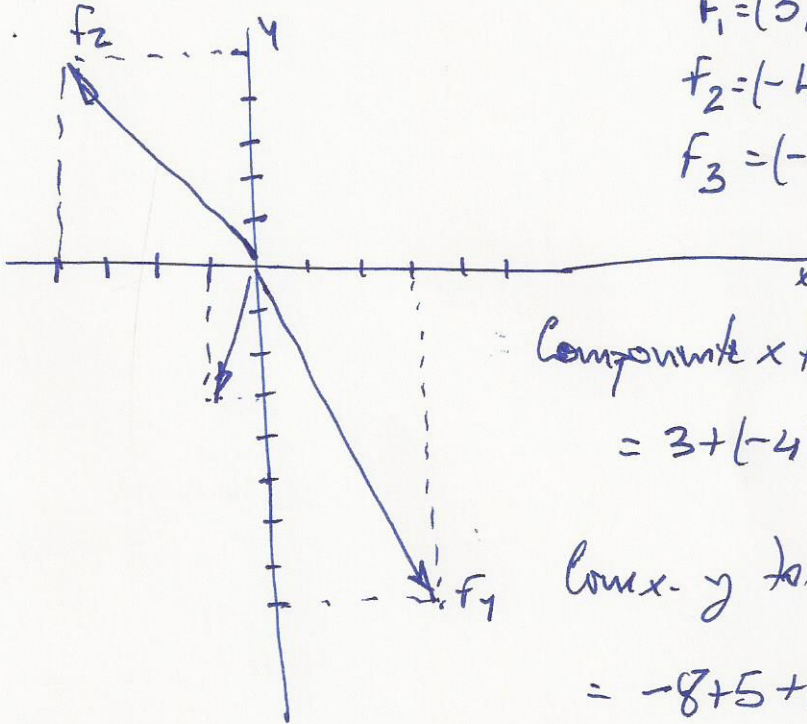
3.



$$F_x = F \cdot \cos 30 = 4 \cdot \cos 30 = 3,46 \text{ N}$$

$$F_y = F \cdot \sin 30 = 4 \cdot \sin 30 = 2 \text{ N}$$

4.



$$F_1 = (3, -8)$$

$$F_2 = (-4, 5)$$

$$F_3 = (-1, -3)$$

$$\begin{aligned} \text{Componente x total} &= \sum \text{Comp. x} = \\ &= 3 + (-4) + (-1) = \underline{\underline{-2}} \end{aligned}$$

$$\begin{aligned} \text{Comp. y total} &= \sum \text{Comp. y} = \\ &= -8 + 5 + (-3) = -6 \end{aligned}$$

$$F_{\text{resultante}} = (-2, -6)$$

