

01) $f: \mathbb{R} \rightarrow \mathbb{R}$
 $f(x) = 6x - 8$

a) Crescente, pois o coeficiente angular é positivo.

b) $x = 0 \Rightarrow y = 6 \cdot 0 - 8 \Rightarrow y = -8$
 $y = 0 \Rightarrow 0 = 6x - 8 \Rightarrow 8 = 6x \Rightarrow \frac{4}{3} = x$

Pontos em que intercepta os eixos coordenados: $(0, -8)$ e $(\frac{4}{3}, 0)$

c) $P(\frac{1}{12}, k)$

$k = 6 \cdot \frac{1}{12} - 8 \Rightarrow k = \frac{1}{2} - 8 \Rightarrow k = \frac{-15}{2}$

02) Dados:
P.A.
 $a_1 = 4$
 $a_7 = 52$

Resolução

$a_7 = a_1 + (7 - 1) \cdot r$
 $52 = 4 + 6 \cdot r$
 $r = 8$

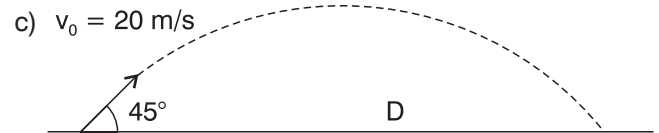
Respostas:

a) $a_3 + a_5 = 56$
b) Termo médio = $a_4 = 28$

A progressão está definida:
(4, 12, 20, 28, 36, 44, 52)

03) a) $v = 72 \text{ km/h} \xrightarrow{+3,6} 20 \text{ m/s}$

b) $s = s_0 + v \cdot t$
 $\Delta s = v \cdot t$
 $d = v \cdot t$
 $1400 = 20 \cdot t$
 $t = 70 \text{ s}$



$\Delta s = v \cdot t$
 $D = v \cdot t_T$
 $D = v_0 \cos \theta \cdot \frac{v_0 \sin \theta}{g} \cdot 2$
 $D = \frac{v_0^2 \cdot 2 \sin \theta \cdot \cos \theta}{g}$
 $D = \frac{v_0^2 \cdot \sin 2\theta}{g} = \frac{(20)^2 \cdot \sin 245^\circ}{g}$
 $D = 40 \text{ m}$

$v = v_0 + at$
 $0 = v_0 \sin \theta - g \cdot t_s$
 $g \cdot t_s = v_0 \sin \theta$
 $t_s = \frac{v_0 \cdot \sin \theta}{g}$

04) a) $\Delta P = \mu \cdot g \cdot \Delta h$
 $0,1 \cdot 10^5 = \mu_{\text{ar}} \cdot 10 \cdot 1000$
 $\mu_{\text{ar}} = 1 \text{ kg/m}^3$

b) $E = \mu_{\text{ar}} \cdot G \cdot V_i$
 $E = 1 \cdot 10 \cdot 1100$
 $E = 11000 \text{ N}$

c) $F_R = E - P$
 $m \cdot a = E - m \cdot g$
 $m \cdot 1 = 11000 - m \cdot 10$
 $11m = 11000$
 $m = 1000 \text{ kg}$

Observação: Para a letra **c**, supondo a massa **m** como sendo a massa total.



b) Álcool, éter e fenol.

c) Nenhum carbono assimétrico.

06) a) $7350 \text{ g} \frac{\quad}{3450 \text{ g}} \frac{\quad}{\quad} 100\%$
 $\frac{\quad}{\quad} x$

$x = 47\% \text{ de C}$

b) $7350 \text{ g} \frac{\quad}{400 \text{ g}} \frac{\quad}{\quad} 100\%$
 $\frac{\quad}{\quad} x$

$x = 5,5\% \text{ de S}$

c) $\text{C} = \frac{47\%}{12}$ $\text{Mn} = \frac{7\%}{55}$ $\text{Si} = \frac{30\%}{28}$ $\text{P} = \frac{11\%}{31}$ $\text{S} = \frac{5,5\%}{32}$
 $\text{C}_{\frac{3,66}{0,12}}$ $\text{Mn}_{\frac{0,12}{0,12}}$ $\text{Si}_{\frac{1,07}{0,12}}$ $\text{P}_{\frac{0,35}{0,12}}$ $\text{S}_{\frac{0,17}{0,12}}$

Fórmula mínima: $\text{C}_{30}\text{MnSi}_9\text{P}_3\text{S}$

Resposta: 1