

$$13) 2^0 = 1 \quad e \quad 0^0 = 0$$

$$14) 0t = 00 = 2^{-0,2t}$$

$$0^{\frac{1}{2}} = 1 \cdot 2^{-0,2t}$$

$$2^{-1} = 2^{-0,2t}$$

$$t = 0,2 \cdot 1 = 5$$

$$00 = 1$$

$$0t = 0,5 \text{ ou } \frac{1}{2}$$

$$15) C(n) = 2n^2 + 3n + 10$$

$$C(n) = 2 \cdot 20^2 + 3 \cdot 20 + 10$$

$$C(n) = 800 + 60 + 10 = 870 //$$

$$16) l(t) = 200 \cdot 2^{(-0,02t)}$$

$$l(2) = 200 \cdot 2^{(-0,02 \cdot 20)}$$

$$l(2) = 200 \cdot 2^{-1} = \frac{200 \cdot 1}{2} = \frac{200}{2} = 100 //$$

17) As respostas I e III estão certas

$$18) F = Kv$$

$$45 = K \cdot 12$$

$$K = \frac{45}{12} = 3,75 \times 7 = 26,25 //$$

$$19) n(t) = 0,6 \cdot 0,17t$$

$$n(0) = 0,6 \cdot 1000.000 = 600.000 \text{ veículos}$$

$$1013.000$$

$$20) P(t) = 150t + 50$$

$$P(t) = 600 + 50 = 650 \text{ linhas}$$

$$21) U = 20 \cdot 2t \Rightarrow 20 \cdot 8 = 120 \text{ V}$$

$$22) y = ax + b$$

$$40 = 0 + b = 40$$

$$60 = 500a + 40 = 20 = 500a$$

$$a = \frac{20}{500} = \frac{1}{25} = 0,04$$

$$(0, 40) \quad a = 0,04$$

$$(500, 60) \quad b = 40$$

$$T(t) = 0,04t + 40$$

170

19

100



2

100

60

10

10

100

1

10

14

100

1

4

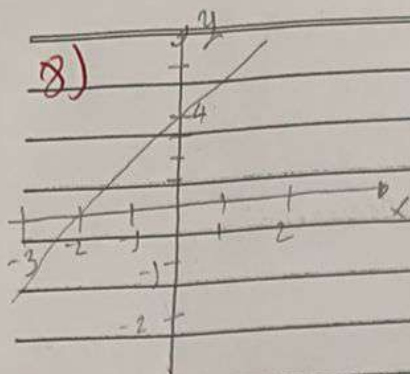
42

10

Figure 1

10

8)

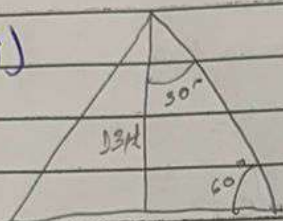


$$y = mx + n$$

Parabola

$$y = mx + n$$

9)



$$\tan 60 = \frac{x}{13} = 2\sqrt{3} = \frac{x}{13} \rightarrow 13\sqrt{3} = 22,5$$

$$\tan 60 = \frac{13}{h} = \frac{\sqrt{3}}{2} = \frac{13}{h} \rightarrow 2 \cdot 13 = h\sqrt{3}$$

$$26 = h\sqrt{3} \rightarrow h = \frac{26}{\sqrt{3}} = \frac{26\sqrt{3}}{3} = 15,4$$

As cordas serão fixadas com estacas 7,5 pés da base, sendo necessário um comprimento total de $2(15,4) = 30,8$ pés.

10)

$$s(t) = 100 - 10t$$

$$100 - 10 \cdot 6$$

$$100 - 60 = 40 //$$

$$11) T = 2\pi \sqrt{\frac{L}{g}}$$

$$T = 2\pi \sqrt{\frac{2}{32}}$$

$$T = 2\pi \sqrt{\frac{2^2}{2^5}} = T = 2\pi \sqrt{2^{-2}} = 2\pi \cdot \frac{1}{2} = T = \pi$$

12)

$$C(x) = 2000 - 15x + 0,5x^2 \quad \Delta = \frac{b^2}{4ac} = \frac{15^2}{4 \cdot 0,5} = 150$$

$$\Delta = -(-15) + 4 \cdot 0,5 \cdot 2000$$

$$x = \frac{-(-15) \pm \sqrt{4225}}{2 \cdot 0,5}$$

$$\Delta = 15^2 + 4 \cdot 2000 \cdot 0,5$$

$$\Delta = 225 + 4000 = 4225$$

$$x = \frac{15 \pm 65}{1} = \frac{80}{1} = 80$$

150 motocicletas

$$x = \frac{-50}{1} = -50$$