

PAG 217/220

23- $a_m = a_1 + (m-1) \cdot r$

$a_5 = a_1 + (5-1) \cdot r$

$a_5 = 43500 + 4 \cdot (-1500)$

$a_5 = 43500 - 6000$

$a_5 = 37500$

24- Agosto março

$a_8 - a_3 = 50$

$a_3 + 5r - a_3 = 50$

$5r = 50$

$r = 10$

NOVEMBRO

$a_{11} = a_{10} + r$

$a_{11} = 190 + 10$

$a_{11} = 200 \text{ máquinas}$

25- $a_N \geq 1500$

$a_1 + (N-1) \cdot r \geq 1500$

$2018 + (N-1) \cdot (-34) \geq 1500$

$(N-1) \cdot (-34) \geq 1500 - 2018$

$N-1 \leq \frac{-518}{-34}$

$N-1 \leq 15,2$

$N \leq 16,2$

26- $a_1 + a_2 + a_3 = 34$

$a_2 - r + a_2 + a_2 + r = 24$

$3a_2 = 24$

$a_2 = 8$

sequência: 1; 8; 15;

$a_1 \cdot a_2 \cdot a_3 = 120$

$(8-r) \cdot 8 \cdot (8+r) = 120$

$(8-r)(8+r) = 15$

$8^2 + r^2 = 15$

$64 - 15 = r^2$

$49 = r^2$

$r = \pm 7$

27- $a_N = a_1 + (N-1)r$

$a_N \geq 1000$

$a_1 + (N-1)r \geq 1000$

$3 + (N-1) \cdot 17 \geq 1000$

$17N - 17 \geq 1000 - 3$

$17N \geq 997 + 17$

$N \geq \frac{1014}{17} = 59,64$

60 dias

28- $a_N \geq 215$

$a_1 + (N-1)r \geq 215$

$5 + (N-1) \cdot 3 \geq 215$

$(N-1) \cdot 3 \geq 215 - 5$

$(N-1) \geq \frac{210}{3}$

$N - 1 \geq 70$

38- $S_N \rightarrow$ soma das distâncias

$S_N = \frac{(a_1 + a_N) \cdot N}{2}$

$S_{10} = \frac{(a_1 + a_{10}) \cdot 10}{2}$

$S_{10} = \frac{(3 + 84) \cdot 10}{2}$

$S_{10} = 435 \text{ m}$

$a_m = a_1 + (m-1)r$

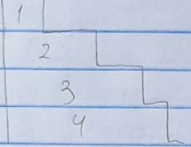
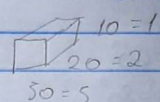
$a_{10} = a_1 + (10-1)r$

$a_{10} = 3 + 9 \cdot 9$

$a_{10} = 3 + 81$

$a_{10} = 84$

39- $DT = 20 + 17 + 14 + 11 + 8 = 70 \text{ km}$

40-  

$$V = 1.25 = 10 \text{ dm}^3$$

$$S_N = \frac{(a_1 + a_N) \cdot N}{2} \quad S_{10} = \frac{(a_1 + a_{10}) \cdot N}{2}$$

$$S_{10} = \frac{(10 + 100) \cdot 10}{2}$$

$$S_{10} = 110 \cdot 5 = 550 \text{ dm}^3$$

41- $a_N = a_1 + (N-1) \cdot \pi$ $S_N = 620$

$$a_N = 12 + (N-1) \cdot 2 \quad \frac{(a_1 + a_N) \cdot N}{2} = 620$$

$$a_N = 12 + 2N - 2$$

$$a_N = 10 + 2N \quad \frac{(12 + 10 + 2N) \cdot N}{2} = 620$$

$$N = \frac{-11 \pm \sqrt{2601}}{2}$$

$$N = \frac{-11 \pm 51}{2}$$

$$N = \frac{40}{2} = 20$$

$$\frac{(22 + 2N) \cdot N}{2} = 620$$

$$(22 + 2N) \cdot N = 1240$$

$$11N + N^2 - 620 = 0$$

$$a = 1/b = 11/c = -620$$

$$\Delta = 11^2 - 4 \cdot 1 \cdot (-620)$$

$$\Delta = 2601$$

42- $a_1 = 40^\circ$

$$a_2 = 40 + \pi = 40 + 20 = 60^\circ$$

$$a_3 = 40 + 2\pi = 40 + 40 = 80^\circ$$

$$a_1 + a_2 + a_3 = 180$$

$$40 + 40 + \pi + 40 + 2\pi = 180$$

$$\pi + 2\pi = 180 - 40 - 40 - 40$$

$$3\pi = 60$$

$$\pi = 20$$

PAG 224/228/230

53- $a_2 = a_1 + Q$

$$Q_2 = Q_3$$

$$Q_2 = Q_2$$

$$a_1 Q = \frac{Q_3}{Q}$$

$$a_2 = a_1 \cdot Q$$

$$a_2 = 3000 \cdot 3$$

$$a_2 = 9000$$

$$3000 \cdot Q = \frac{27000}{Q}$$

$$Q \cdot Q = \frac{27000}{3000}$$

$$Q^2 = \frac{27}{3}$$

$$Q = 3$$

$$C_1 = 0,96^1 \cdot C_0$$

$$C_1 = 0,96 \cdot 0,96 \cdot C_0 = 0,96^2 \cdot C_0$$

$$C_3 = 0,96 \cdot 0,96 \cdot 0,96 \cdot C_0 = 0,96^3 \cdot C_0$$

$$C_4 = 0,96^4 \cdot C_0 = C_0 \cdot 0,96^4$$

58-

$$C_{0,2} = 4\% (96\% = 0,96)$$

$$C_{1,2} = 4\% (0,96)$$

$$C_{2,2}$$

59- anos 2015 PG \rightarrow Produção

1º trim	a_1	\rightarrow	30000	$\times 2$
2º trim	a_2	\rightarrow	60000	$\times 2$
3º trim	a_3	\rightarrow	120000	$\times 2$
4º trim	a_4	\rightarrow	240000	$\times 2$

60- $100\% - 90\% =$ $a_n = a_1 \cdot Q^{n-1}$
 $Q = 0,90$ $a_6 = a_1 \cdot Q^{6-1}$
 $a_6 = 10000 \cdot 0,9^5$
 $a_6 = 10000 \cdot 0,59049$
 $a_6 = 5904,90$

67- $S_n = a_1 \cdot \frac{1-Q^n}{1-Q}$

$S_5 = 60 \cdot \frac{1-2^5}{1-2}$

$S_5 = 60 \cdot \frac{1-32}{-1}$

$S_5 = 60 \cdot -31 = 60 \cdot 31 = 1860$

68- $S_n = a_1 \cdot \frac{1-Q^n}{1-Q}$

$S_{12} = 4 \cdot \frac{1-5^{12}}{1-5}$

$S_{12} = 4 \cdot \frac{1-244.140.625}{-4}$

$S_{12} = -244.140.624 \rightarrow 244.140.624$

72- PG ARCA

$a_1 = 40 \cdot \frac{1}{4} = 10$ } PG-
 $a_2 = 40$ } $Q = 1/4$
 $a_3 = 10 \cdot \frac{1}{4} = 25$ } $a_1 = 40$

$S_\infty = \frac{a_1}{1-Q}$

$S_\infty = \frac{40}{1-\frac{1}{4}}$

$\frac{40}{\frac{3}{4}}$

$S_\infty = \frac{40}{\frac{3}{4}}$

$S_\infty = \frac{40 \cdot 4}{1 \cdot 3} = \frac{160}{3}$

1- $\frac{3}{4} \cdot \frac{3}{4}$
 $9 \cdot \frac{3}{4}$
 $16 \cdot \frac{3}{4}$
 $27 \cdot \frac{3}{4}$
 64

letra B

2- APASTAMBA BAUDAHAYANA

15, 36, 39

7, 24, 25

5, 12, 13

diff=1

diff=1

$25^2 \neq 24^2 + 7^2$

12, 15, 17

$625 \neq 625$

diff=2

(F)

(F)

MANANA

72, 96, 120

40, 96, 104

3, 9, 5

5, 12, 13

diff=1

diff=1

(V)

$$1- S_{10} = a_1 \cdot \frac{1-Q^{10}}{1-Q}$$

$$S_{10} = 1 \cdot \frac{1-2^{10}}{1-2}$$

$$S_{10} = -\frac{1023}{-1} \rightarrow 1023$$

3- 1 2 3 4 5

11 24 38 53 69
13 14 15 16

letra B

5- 1º irmão

2º irmão

27 pag 1 dia

dia ~ PAGs

Nº dias

1 (a1) 3 } +4

903 = 25 dias

2 (a2) 7 } +4

27

3 (a3) 11

$$S_N \geq 903$$

$$\Delta = 1^2 - 4 \cdot 2 \cdot (-903)$$

$$\frac{(a_1 + a_N) \cdot N}{2} \geq 903$$

$$\Delta = 7225$$

$$(3 + 4N - 1)N \geq 903 \cdot 2 \quad N = \frac{-1 \pm \sqrt{7225}}{2 \cdot 2}$$

$$4N^2 + 2N - 1806 : 2$$

$$2N^2 + N - 903 \geq 0 \quad N = \frac{-1 \pm 85}{2} \rightarrow N = 21$$

9- 0 5 10 15 20 25

100 50 25 12,5 6,25 3,125

$\frac{1}{2}$

letra e