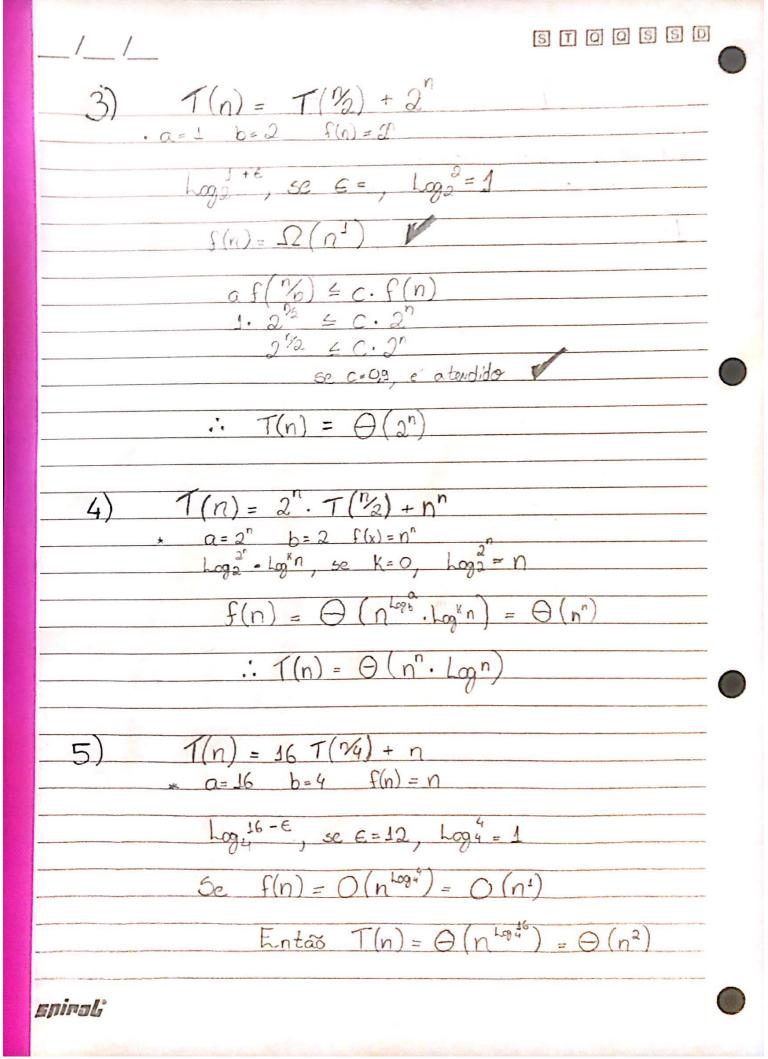
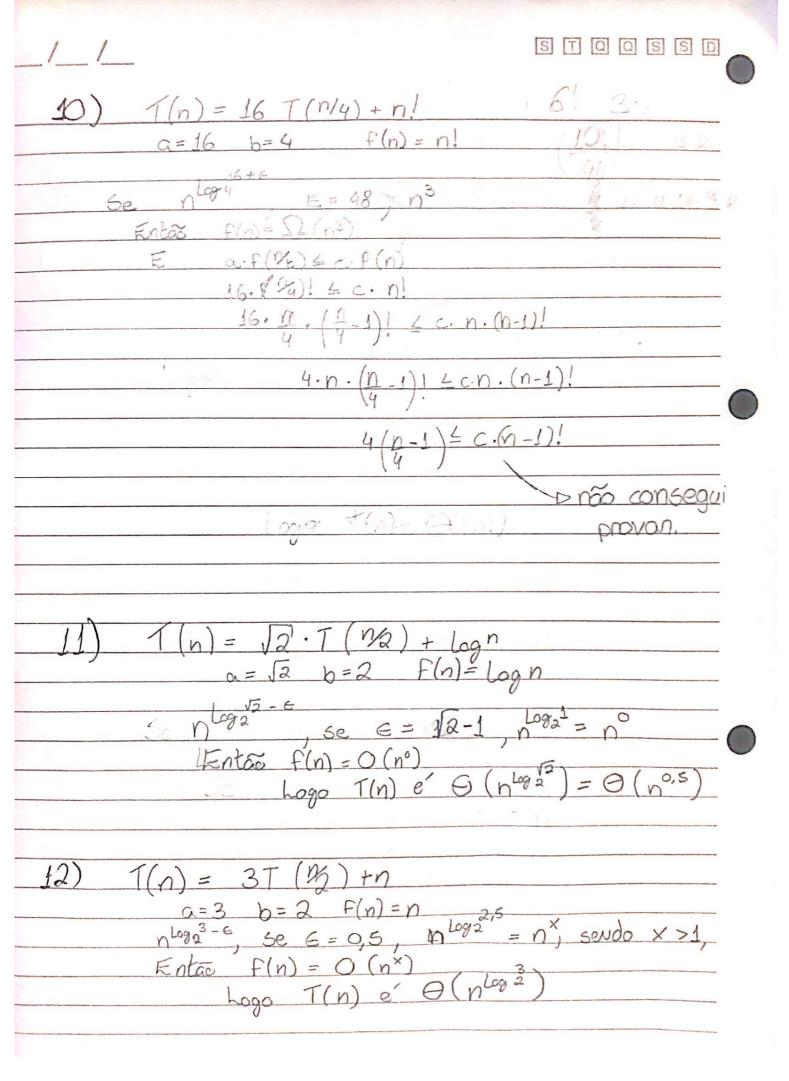
	/_/_
Teorema Mestre	
BRENO DE CASTRO PIMENTA RA: 2017114809	
1) $I(n) = 3I(n/2) + n^2$ * $a = 3 \ge 1$ $b = 2 \ge 1$ $f(n) = n^2$ \log_{3}^{3+6} , so $6 = 1$, $\log_{3}^{3+1} = 2$	
$\therefore f(n) = \Omega(n^{\log e^{-\epsilon}}) = \Omega(n^2)$	
$ \begin{array}{c} $	
y 3/y=c √	
$Logo T(n) = \Theta(n^2)$	
$2) I(n) = 4I(\frac{n}{2}) + n^{2}$ $* \alpha = 4 b = 2 f(x) = n^{2}$	
$\log_2^{4n}, \text{ se } K=0, \log^4 \cdot \log^4 n = 2$ $\therefore f(n) = \Theta(h^{\log^2 \cdot \log^4 n}) = \Theta(n^2)$	
Logo $T(n) = \Theta(n^{\log_2 n})$	



	//_
	<u> </u>
Sondo ntogo hogin, se K=1, n hogn,	
Logo $f(n) = \Theta(n \cdot \log n)$, então $T(n) = \Theta$	$(n \cdot log^2 n)$
$7) T(n) = 2 \cdot T(2) + \frac{1}{\log^n}$ $0 = 2 b = 2 f(n) = \frac{1}{\log^n}$	$ \frac{(f(n) \neq O(n^3))}{f(n) \neq \Omega(n^3)} $ K 40
Não funciona o Teonema Mestre	
8) $T(n) = 2T(\frac{n}{4}) + n^{0.51}$ $0 = 2 b = 4 F(n) = n^{0.51}$	2 (2)0,51 2 (2)0,51 2 (2)0,51 2 (2)0,51
Sends $n^{\text{Log}^{\frac{2}{4}+\epsilon}}$, se $\epsilon = \text{Log}_{4}^{0,\overline{\omega}9}$, $n^{0,509}$	Rongo eou: C 77
Logo $f(n) = \Omega(n^{0,503})$, então $T(n)$:	$=\Theta(n^{0,51})$
9) $T(n) = 0.5 T(n^2) + \frac{3}{n}$	
$a = 0.5$ $b = 2$ $f(n) = \frac{1}{n}$	
Como a < 1, não há como aplicar o teoremo mestre	
Ten t	
	sniral"



 $\frac{3}{4}$ · n · $\frac{\log n}{\log 4}$ $\leq c$ · $\frac{n \log n}{\log 4}$

38 · n· logn = C · n logn

C = 38 atende

Logo T(n) e' O(n. Logn)

snirali

//_	STQQSSD
16) $T(n) = 3 \cdot T(2) + 2$ $\alpha = 3 b = 3 F(n) = 26$ $n^{1693} \cdot \log Kn$, sender $K = 0$, n^{169} Entoe $F(n) = \Theta(n)$ $\log \sigma T(n) \in \Theta(n \cdot \log T)$	$\frac{3}{3} = n^{L}$
17) $T(n) = 6 \cdot T(23) + n^2 \cdot \log 6$ $a = 6 b = 3 F(n) = n^2 \cdot \log 6$ $n^{\log^6 + \epsilon}, \text{ seudo} \epsilon = 3, n^{\log^6 3}$ $Entao F(n) = \Omega \cdot (n^2)$	$\frac{n}{1-n^2}$
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	n².lagn
Log ³	ob, pois $\left[\begin{array}{c} (69) \\ (23) \end{array}\right] $
18) $I(n) = 4T(n) + \frac{n}{\log n}$ $\alpha = 4 b = 2 F(n) = 2 \log n$	
$n^{\log_2 4-\epsilon}$, sew/or $\epsilon=2$, $n^{\log_2 2}$. Entar $f(n)=O(n)$ $\log_2 4-\epsilon$ \log_2	
spiral [°]	

apiral'