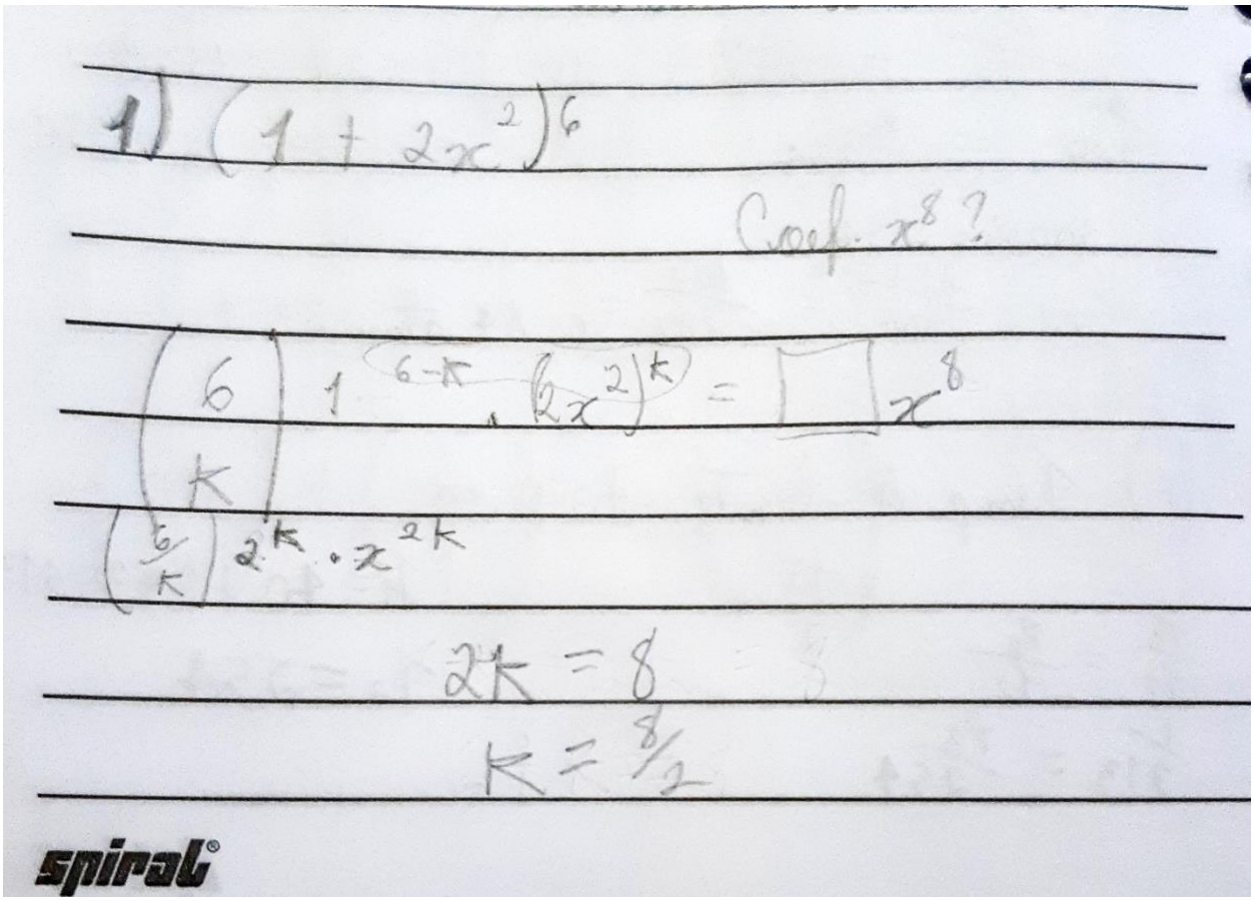
Nome: Victória Ferreira de Souza

Sala: CTII 317



$k = 4$

$\binom{6}{4} 2^4 . x^8$

$\frac{6 . 5 . \cancel{4 . 3} . 16 . x^8}{\cancel{4 . 3} . 2 . 1}$

$3 . 5 . 16 = 240$

$240 x^8$ letra C

2) $(14x - 13y)^{237}$

$x = 1 \; ; \; y = 1$

$\frac{(14.1 - 13.1)^{237}}{(14 - 13)^{237}}$

1 R37

1 letra B

3) $(x+a)^{11} = 1386\,x^5$

$\binom{11}{k} x^{11-k} \cdot a^k = 1386\,x^5$

$11-k=5$

$-k = 5-11$

$-k = -6 \quad (-1)$

$k = 6$

$\binom{11}{6} x^{11-6} \cdot a^6 = 1386\,x^5$

$\binom{11}{6} x^5 \cdot a^6 = 1386\,x^5$

spiral

$$\frac{11.10.9.8.7.6}{6.5.4.3.2.1} \cdot a^6 = 1386$$

$$462 \cdot a^6 = 1386$$

$$a^6 = \frac{1386}{462}$$

$$a^6 = 3$$

$$a = \sqrt[6]{3}$$ letra A

4)

$$\left(x + \frac{1}{x^2}\right)^9$$

$$\binom{9}{k} x^{9-k} \cdot \left(\frac{1}{x^2}\right)^k$$

$$\binom{9}{k} \cdot x^{9-k} \cdot \left(x^{24}\right)^k$$

$\binom{9}{k} x^{\frac{9-k}{2}} \cdot x^{-k}$

$\frac{9-k}{2} - k = \binom{9}{k}$

$x^{\frac{9-k}{2} - k + \frac{9-k}{2} - \frac{2k}{2}}$

$\frac{9-3k}{2}$

$\binom{9}{k} x^{\frac{9-3k}{2}} \rightarrow \frac{9-3k}{2} = 0$

$9 - 3k = 0$

$-3k = -9 \quad (-1)$

$3k = 9$

$k = \left(\frac{2}{3}\right)$ letra D

5) $\left(x + \frac{1}{x^2}\right)^n$

$\binom{n}{k} x^{n-k} \cdot \left(\frac{1}{x^2}\right)^k$

$\binom{n}{k} x^{n-k} \cdot \frac{1^k}{x^{2k}}$

$\binom{n}{k} x^{n-3k} \cdot 1^k$

$n - 3k = 0$

$-3k = -n \quad (-1)$

$3k = n$

$k = \frac{n}{3}$

$\binom{n}{\frac{n}{3}} \cdot 1^{\frac{n}{3}}$

$\binom{n}{\frac{n}{3}} \cdot 1$

3 letra C

7) $(2x+y)^5$

$\binom{5}{0} 2x^5 y^0 + \binom{5}{1} 2x^4 y^1 \dots \binom{5}{4} 2x^1 y^4 +$

$\binom{5}{5} 2x^0 y^5$

$\binom{5}{0} 2^5 + \binom{5}{1} 2^4 + \dots \binom{5}{4} 2^1 + \binom{5}{5} 2^0$

$2^5 + 5.2^4 + 10.2^3 + 10.2^2 + 5.2 + 1$

$32 + 80 + 80 + 40 + 10 + 1$

243 letra C