

2.55  
74

$$\left(\frac{1}{2}\sqrt{a^2+2}\sqrt{a}\right)^{12} \cdot (\sqrt{a}-a^3\sqrt{a})^{18}$$

$$T_{k+1} = \binom{12}{k} \left(\frac{1}{2}a^{\frac{2}{3}}\right)^{12-k} \left(2a^{\frac{1}{2}}\right)^k \quad V_{l+1} = \binom{18}{l} \left(a^{\frac{1}{2}}\right)^{18-l} \left(-a^{\frac{4}{3}}\right)^l$$

16 יהיה (המקדם של a) של המכונה 2,13)

$$16 = \frac{2}{3}(12-k) + \frac{1}{2}k + \frac{1}{2}(18-l) + \frac{4}{3}l$$

$$16 = 8 - \frac{2k}{3} + \frac{1}{2}k + 9 - \frac{1}{2}l + \frac{4}{3}l \quad | \cdot 6$$

$$-6 = -4k + 3k - 3l + 8l$$

$$-6 = -k + 5l$$

$$0 \leq k \leq 12 \quad \text{כי}$$

$$0 \leq l \leq 18$$

$$k=6 \quad \binom{12}{6} \quad l=0 \quad \text{כי}$$

$$k=11 \quad \binom{12}{11} \quad l=1 \quad \text{כי}$$

$$\binom{12}{6} \left(\frac{1}{2}\right)^6 2^6 \cdot \binom{18}{0} \frac{1}{2} = \binom{12}{6}$$

$$\binom{12}{6} \quad k=6, \quad l=0 \quad \text{כי}$$

$$\binom{12}{11} \left(\frac{1}{2}\right)^1 2^{11} \cdot \binom{18}{1} \frac{1}{2} = 12 \cdot 2^{10} \cdot 18$$

$$\binom{12}{11} \quad k=11 \quad l=1 \quad \text{כי}$$

$$\binom{12}{6} = 216 \cdot 1024$$

1016  $a^{16}$  של המכונה 2,13)