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$$\frac{1}{a_1 a_2} + \frac{1}{a_2 a_3} + \frac{1}{a_3 a_4} + \dots + \frac{1}{a_{n-1} a_n}$$

$$\frac{1}{a_2 - a_1} \left( \frac{1}{a_1} - \frac{1}{a_2} \right) + \frac{1}{a_3 - a_2} \left( \frac{1}{a_2} - \frac{1}{a_3} \right) + \frac{1}{a_4 - a_3} \left( \frac{1}{a_3} - \frac{1}{a_4} \right) + \dots + \frac{1}{a_n - a_{n-1}} \left( \frac{1}{a_{n-1}} - \frac{1}{a_n} \right)$$

$$= \frac{1}{d} \left( \frac{1}{a_1} - \frac{1}{a_2} \right) + \frac{1}{d} \left( \frac{1}{a_2} - \frac{1}{a_3} \right) + \frac{1}{d} \left( \frac{1}{a_3} - \frac{1}{a_4} \right) + \dots + \frac{1}{d} \left( \frac{1}{a_{n-1}} - \frac{1}{a_n} \right) =$$

$$\frac{1}{d} \left( \frac{1}{a_1} - \frac{1}{a_2} + \frac{1}{a_2} - \frac{1}{a_3} + \frac{1}{a_3} - \frac{1}{a_4} + \dots + \frac{1}{a_{n-1}} - \frac{1}{a_n} \right) =$$

$$\frac{1}{d} \left( \frac{1}{a_1} - \frac{1}{a_n} \right) = \frac{1}{d} \left( \frac{a_n - a_1}{a_1 a_n} \right) = \frac{1}{d} \left( \frac{a_1 + d(n-1) - a_1}{a_1 a_n} \right) =$$

$$\frac{1}{d} \left( \frac{d(n-1)}{a_1 a_n} \right) = \frac{n-1}{a_1 a_n}$$

26  $S_n = 125 \quad d = 3 \quad a_n = 26$

$S_n = \frac{n}{2} [2a_n - d(n-1)]$  (משוואה)

$$125 = \frac{n}{2} [52 - 3(n-1)] \quad / \cdot 2$$

$$250 = n(52 - 3n + 3)$$

$$3n^2 - 55n + 250 = 0$$

$$n_{1,2} = \frac{55 \pm 5}{6} = \begin{cases} 10 \\ 8 \frac{1}{3} \end{cases}$$

לפי הבעיה  $n$  - מספר שלם

$$a_n = a_1 + d(n-1)$$

$$26 = a_1 + 3 \cdot 9$$

$$\boxed{a_1 = -1}$$

32  $d = 6$

לקראת אגרת התעשייתן צולקת ה- 11  $a_n$  (אגרת) בקלטה ל סכום

$$880 = \frac{11}{2} [2a_1 + 6(11-1)] \quad / \cdot 2$$

$$1760 = 11(2a_1 + 60)$$

$$1100 = 22a_1$$

$$a_1 = 50$$

$$50 = 2 + 6(n-1)$$

$$n = 9$$

(11) אגרות (ל) 50 בסכום האגרות!