

N9 (N1 миллиграмм)

80 : 20

x_1 - сахара

x_2 - фруктоза

$$x_1 = 4x_2.$$

$$p_1 = 1,01 \text{ г} \cdot \text{л}$$

$$p_2 = 0,96 \text{ г} \cdot \text{л}.$$

$$\underbrace{1,01 \cdot 4x_2}_{4,04} + 0,96 \cdot x_2 = 980$$

$$\Rightarrow 5x_2 = 980 \Rightarrow x_2 = 196$$

$$x_1 = 784$$

N10 (N2 миллиграмм)

$$w^A = (6, 4) \quad w^B = (18, 3)$$

$$x_2^A = \frac{1}{4} \cdot \frac{p_1 \cdot 6 + p_2 \cdot 4}{p_2} = 2 \Rightarrow$$

$$\frac{3}{2} \cdot \frac{p_1}{p_2} + 1 = 2 \Rightarrow \frac{p_2}{p_1} = \frac{3}{2}$$

$$x_1^A = \frac{3}{4} \cdot \frac{p_1 \cdot 6 + p_2 \cdot 4}{p_1} = \frac{9}{2} + \frac{9}{2} = 9$$

$$x_1^B = 24 - 9 = 15$$

N11 (N3 по плану)

$u(x) = -\frac{1}{x}$ q - цена покупки аккумулятора

$$-\frac{1}{1000} = \frac{1}{3} \cdot \left(-\frac{1}{1000+a-q} \right) + \frac{2}{3} \cdot \left(-\frac{1}{1000-q-20q} \right)$$

$$\frac{1}{1000} = \frac{1}{3} \frac{1}{900+a} + \frac{2}{3} \frac{1}{700}$$

$$\underbrace{\frac{3^{\cancel{4}}}{1000} - \frac{2^{\cancel{10}}}{700}}_{\frac{1}{7000}} = \frac{1}{900+a}$$

$$\Rightarrow 7000 = 900 + a$$

$$a = 6100$$

$N12$ ($N4$ no max)

$$F = 12 \cdot x_1^{1/4} \cdot 2 - 6 \cdot x_1 - 2 \cdot 4 \rightarrow \max_{x_1 > 0}$$

$$F' = 24 \cdot (x_1^{1/4})' - 6 = 0$$

$$F' = 24 \cdot \frac{1}{4} \cdot x_1^{-3/4} - 6 = 0 \Rightarrow \frac{6}{x_1^{3/4}} = 6 \Rightarrow x_1 = 1$$

\uparrow
 $x_1 > 0$

$$F'' < 0$$

$$F = 12 \cdot 1 \cdot 2 - 6 \cdot 1 - 8 = 24 - 14 = 10$$

N13 (N5 по микро)

$$1) p = c'(y) \Rightarrow p = 16y \Rightarrow y = \frac{p}{16}$$

$$2) c'(y) = 16y - \text{не удов.}$$

$$3) \pi(y) \geq \pi(0) \quad p \geq \min AC$$

$$AC(y) = \frac{c(y)}{y} = \frac{2}{y} + 8y$$

$$\frac{2}{y} = 8 \cdot y \Rightarrow y^2 = \frac{1}{4} \Rightarrow y = \frac{1}{2}$$

$$AC(y) = MC(y) \Rightarrow \frac{2}{y} + 8y = 16y$$

$$\min AC = \frac{2}{\frac{1}{2}} + 8 \cdot \frac{1}{2} = 8$$

Ф. пред- фирма;

$$y(p) = \begin{cases} \frac{p}{16}, & \text{если } p \geq 8 \\ 0, & \text{если } 0 < p < 8 \end{cases}$$

$$\frac{N \cdot p}{16} = 50 - p \Rightarrow N \cdot \frac{8}{16} = \underbrace{50 - 8}_{42} \Rightarrow N = 84$$

W 14 (W 6 no ulkpa)

$$c(y) = c \cdot y$$

$$\left. \begin{aligned} p_A \left(1 - \frac{1}{|E_A|}\right) &= \overbrace{c}'(y_A + y_B) \\ p_B \left(1 - \frac{1}{|E_B|}\right) &= c \end{aligned} \right\} \Rightarrow \frac{p_A}{p_B} = \frac{1 - \frac{1}{|E_B|}}{1 - \frac{1}{|E_A|}} = \frac{1 - \frac{1}{5}}{1 - \frac{2}{5}} = \frac{\frac{4}{5}}{\frac{3}{5}} = \frac{4}{3}$$

№15 (№7 по плану)

$$p = a - by, \quad c_i(y_i) = c \cdot y_i, \quad i=1,2$$

$$y_1^c = y_2^c = \frac{a-c}{3b}$$

$$p^c = \frac{a+2c}{3}$$

$$c_i(y_i) - s \cdot y_i = (c-s)y_i$$

$$p_s^c = \frac{a+2(c-s)}{3} = \frac{a+2c}{3} - \frac{2s}{3}$$

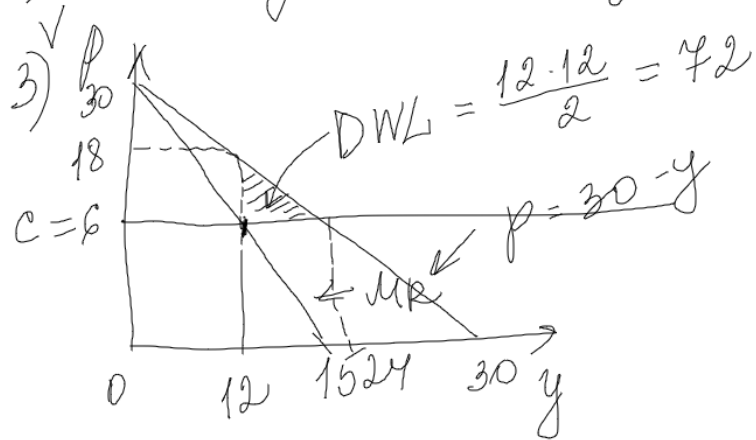
$$p_s^c \downarrow \text{ на } \frac{2 \cdot 12}{3} = 8 \text{ г.е.}$$

№16 (№8 по микро)

$$1) \quad p(y) \cdot y = (30 - y) \cdot y \Rightarrow MR(y) = 30 - 2y$$

$$MR(6) = 30 - 12 = 18$$

$$2) \quad \vee \quad 30 - 2y = 6 \Rightarrow y_m = \frac{30 - 6}{2} = \frac{24}{2} = 12$$



$$p = 6 \quad x = 30 - p = 24$$

только (2) и (3)