

Testul 2

$$1. a) \frac{\cancel{4}}{\cancel{5}_1} \cdot \frac{\cancel{10}^2}{\cancel{21}_3} = \frac{2}{3}$$

$$b) \frac{13}{14} : \frac{39}{28} = \frac{\cancel{13}}{\cancel{14}_1} \cdot \frac{\cancel{28}^2}{\cancel{39}_3} = \frac{2}{3}$$

$$\begin{aligned} 2. a) 2\frac{1}{3} \cdot \frac{4}{7} + \frac{9}{5} : 3 - \frac{1}{12} &= \frac{2 \cdot 3 + 1}{3} \cdot \frac{4}{7} + \frac{\cancel{9}^3}{\cancel{5}_1} \cdot \frac{1}{\cancel{3}_1} - \frac{1}{12} = \\ &= \frac{\cancel{4}^1}{\cancel{3}_1} \cdot \frac{4}{\cancel{7}_1} + \frac{3}{5} - \frac{1}{12} = \frac{20}{4} + \frac{12}{3} - \frac{5}{12} = \frac{80 + 36 - 5}{60} = \\ &= \frac{116 - 5}{60} = \frac{111}{60} \stackrel{3}{=} \frac{37}{20} \end{aligned}$$

$$\begin{aligned} b) \left[\left(\frac{2}{3} \right)^5 \right]^4 : \left(\frac{2}{3} \right)^{17} &= \left(\frac{2}{3} \right)^{5 \cdot 4} : \left(\frac{2}{3} \right)^{17} = \left(\frac{2}{3} \right)^{20} : \left(\frac{2}{3} \right)^{17} = \left(\frac{2}{3} \right)^{20-17} = \left(\frac{2}{3} \right)^3 = \\ &= \frac{2^3}{3^3} = \frac{8}{27} \end{aligned}$$

$$3. \Delta = 3\frac{14}{25} = \frac{3 \cdot 25 + 14}{25} = \frac{75 + 14}{25} = \frac{89}{25}$$

$$\Delta : \hat{1} = C \Rightarrow \hat{1} = \Delta : C = \frac{89}{25} : \frac{89}{15} = \frac{\cancel{89}^1}{\cancel{25}_5} \cdot \frac{\cancel{15}^3}{\cancel{89}_1} = \frac{3}{5} \Rightarrow$$

$$\Rightarrow \hat{1} = \frac{3}{5}$$

$$4. \left[\left(\frac{\frac{6}{15} - \frac{5}{18}}{\frac{1}{45} + \frac{1}{60}} \right) : \frac{1}{12} - \frac{\frac{4}{12} - \frac{4}{15}}{\frac{1}{60}} \right] : \frac{1}{2} = \left(\frac{6-5}{90} \cdot \frac{45}{1} + \frac{1}{60} : \frac{5-4}{60} \right) : \frac{1 \cdot 2 + 1}{2} =$$

$$= \left(\frac{1}{\cancel{90}_2} \cdot \frac{\cancel{45}^1}{1} + \frac{1}{\cancel{60}_1} \cdot \frac{\cancel{60}^1}{1} \right) : \frac{3}{2} = \left(\frac{1}{2} + \frac{2}{1} \right) \cdot \frac{2}{3} = \frac{1+2}{2} \cdot \frac{2}{3} = \frac{\cancel{2}}{1} \cdot \frac{1}{\cancel{3}_1} = 1$$

$$5. \frac{2}{9} \cdot 2700^{\frac{300}{1}} = 2 \cdot 300 = 600 \text{ Kg zahăr (s-a scos în I zi)}$$

$$2700 - 600 = 2100 \text{ Kg zahăr (rămasă după I zi)}$$

$$\frac{3}{7} \cdot 2100^{\frac{300}{1}} = 3 \cdot 300 = 900 \text{ Kg zahăr (s-a scos în a II-a zi)}$$

$$2100 - 900 = 1200 \text{ Kg zahăr (rămasă după a II-a zi)}$$

$$\frac{1}{4} \cdot 1200^{\frac{300}{1}} = 1 \cdot 300 = 300 \text{ Kg zahăr (s-a scos în a III-a zi)}$$

$$1200 - 300 = 900 \text{ Kg zahăr (rămasă după a III-a zi)}$$

R: 900 Kg zahăr

$$6. \left[\left(\frac{3}{5} \right)^6 \right]^{10} = \left[\left(\frac{9}{25} \right)^5 \right]^m$$

$$\left(\frac{3}{5} \right)^{6 \cdot 10} = \left(\frac{3^2}{5^2} \right)^{5 \cdot m}$$

$$\left(\frac{3}{5} \right)^{60} = \left(\frac{3}{5} \right)^{2 \cdot 5 \cdot m} \Rightarrow 60 = 10m \Rightarrow m = \frac{60}{10} \Rightarrow m = 6$$

$$7. P_{\square} = 7 \frac{1}{5} \text{ cm} = \frac{7 \cdot 5 + 1}{5} = \frac{36}{5} \text{ cm}$$

$$P_{\square} = 4 \cdot l \Rightarrow l = P_{\square} : 4$$

$$l = \frac{36}{5} : 4$$

$$l = \frac{36}{5} \cdot \frac{1}{4} \Rightarrow l = \frac{9}{5} = 1 \frac{4}{5} \text{ cm}$$

$$8. L = 12 \frac{3}{10} \text{ cm} = \frac{12 \cdot 10 + 3}{10} = \frac{123}{10} \text{ cm}$$

$$l = \frac{2}{5} \cdot \frac{123}{10} \Rightarrow l = \frac{41}{5} \text{ cm}$$

$$P_{\square} = 2 \cdot (L + l) = 2 \cdot \left(\frac{123}{10} + \frac{41}{5} \right) = 2 \cdot \frac{123 + 82}{10} = \frac{205}{5} = \frac{41}{1} = 41 \text{ cm}$$

$$P_{\square} = 41 \text{ cm}$$

n.c = 10