

$$\begin{aligned}
 1. \quad \frac{\frac{5,7}{0,19} - \frac{0,51}{0,17}}{\frac{1,4}{0,56}} &= \frac{\frac{570}{19} - \frac{51}{17}}{\frac{140}{56}} \\
 &= \frac{30 - 3}{\frac{5}{2}} \\
 &= 27 \cdot \frac{2}{5} \\
 &= \frac{54}{5} \\
 &= 10,8
 \end{aligned}$$

Cevap: E

$$\begin{aligned}
 2. \quad \frac{10 - 0,19}{(0,03)^2 \cdot (10,9)} &= \frac{9,81}{0,0009 \cdot 10,9} \\
 &= \frac{9,81}{0,00981} \\
 &= \frac{981000}{981} \\
 &= 1000
 \end{aligned}$$

Cevap: A

$$\begin{aligned}
 3. \quad (0,04)^x &= (0,0016)^y \Rightarrow (0,04)^x = ((0,04)^2)^y \\
 & \quad (0,04)^x = (0,04)^{2y} \\
 & \quad \Rightarrow x = 2y \\
 x + y &= 3 \Rightarrow 2y + y = 3 \Rightarrow 3y = 3 \Rightarrow y = 1 \\
 & \quad x = 2 \cdot 1 = 2 \\
 x \cdot y &= 2 \cdot 1 = 2
 \end{aligned}$$

Cevap: D

$$\begin{aligned}
 4. \quad \frac{(0,00005)^3}{(0,0025)^{-2}} &= \frac{(5 \cdot 10^{-5})^3}{(25 \cdot 10^{-4})^{-2}} \\
 &= \frac{5^3 \cdot 10^{-15}}{5^{-4} \cdot 10^8} \\
 &= 5^{3+4} \cdot 10^{-15-8} \\
 &= 5^7 \cdot 10^{-23}
 \end{aligned}$$

Cevap: D

$$\begin{aligned}
 5. \quad \frac{0,0003}{\frac{1}{(2)}} - \frac{0,001}{\frac{2}{(1)}} &= \frac{0,0006 - 0,001}{2} \\
 &= \frac{0,0006 - 0,0010}{2} \\
 &= \frac{-0,0004}{2} \\
 &= -0,0002
 \end{aligned}$$

Cevap: E

$$\begin{aligned}
 6. \quad \left. \begin{aligned} 5412 &= a \\ 3404 &= b \end{aligned} \right\} \text{ olmak üzere;}
 \end{aligned}$$

$$\begin{aligned}
 5412 \cdot 3406 - 5414 \cdot 3404 &= a \cdot (b + 2) - (a + 2) \cdot b \\
 &= a \cdot b + 2a - a \cdot b - 2b \\
 &= 2a - 2b \\
 &= 2 \cdot (a - b) \\
 &= 2 \cdot (5412 - 3404) \\
 &= 2 \cdot 2008 \\
 &= 4016
 \end{aligned}$$

Cevap: E

$$\begin{aligned}
 7. \quad \frac{\frac{5}{1}}{0,5} - \frac{\frac{0,5}{1}}{\frac{1}{5}} &= 5 \cdot \frac{0,5}{1} - 0,5 \cdot \frac{5}{1} \\
 &= 2,5 - 2,5 \\
 &= 0
 \end{aligned}$$

Cevap: E

$$\begin{aligned}
 8. \quad \frac{256^{0,125} + 9^{0,50}}{25^{0,75}} &= \frac{(2^8)^{0,125} + (3^2)^{0,5}}{(5^2)^{0,75}} \\
 &= \frac{2^1 + 3^1}{5^{1,5}} \\
 &= \frac{5^1}{5^2} \\
 &= 5^{-\frac{1}{2}} \\
 &= \frac{1}{\sqrt{5}} = \frac{\sqrt{5}}{5}
 \end{aligned}$$

Cevap: C

$$\begin{aligned}
 9. \quad a = 5, b = 2 &\Rightarrow \frac{0,03}{0,002} + \frac{0,1}{0,02} + \frac{0,03}{0,005} = ? \\
 &= \frac{0,030}{0,002} + \frac{0,10}{0,02} + \frac{0,030}{0,005} \\
 &= \frac{30}{2} + \frac{10}{2} + \frac{30}{5} \\
 &= \frac{15 + 5 + 6}{20} + 6 \\
 &= 4,5 + 3,2 \\
 &= 4a + 3b
 \end{aligned}$$

Cevap: D

$$\begin{aligned}
 10. \quad (12 - 0,8 \cdot 0,5) : (3,26 + 0,74) \\
 &= (12 - 0,4) : 4 \\
 &= 11,6 : 4 \\
 &= 2,9
 \end{aligned}$$

Cevap: D

$$\begin{aligned}
 11. \quad \left(\frac{758 + 7,58}{75,8}\right) : \left(\frac{587 + 5,87}{58,7}\right) \\
 &= \left(\frac{758}{75,8} + \frac{7,58}{75,8}\right) : \left(\frac{587}{58,7} + \frac{5,87}{58,7}\right) \\
 &= \left(\frac{7580}{758} + \frac{758}{7580}\right) : \left(\frac{5870}{587} + \frac{587}{5870}\right) \\
 &= \left(10 + \frac{1}{10}\right) : \left(10 + \frac{1}{10}\right) = 1
 \end{aligned}$$

Cevap: C

$$\begin{aligned}
 12. \quad \frac{1,3}{0,013} - \frac{0,196}{0,00196} + \frac{0,0225}{0,00025} \\
 &= \frac{1,300}{0,013} - \frac{0,19600}{0,00196} + \frac{0,02250}{0,00025} \\
 &= \frac{1300}{13} - \frac{19600}{196} + \frac{2250}{25} \\
 &= 100 - 100 + 90 = 90
 \end{aligned}$$

Cevap: A

$$\begin{aligned}
 13. \quad \frac{0,03}{0,003} + \frac{0,5}{0,05} + \frac{0,6}{0,03} \\
 &= \frac{0,030}{0,003} + \frac{0,50}{0,05} + \frac{0,60}{0,03} \\
 &= \frac{30}{3} + \frac{50}{5} + \frac{60}{3} \\
 &= 10 + 10 + 20 = 40
 \end{aligned}$$

Cevap: A

$$\begin{aligned}
 14. \quad \frac{\frac{3}{2} - \frac{1}{0,2 - 0,4} : 0,5}{0,5} &= \frac{\frac{3}{2} - \frac{1}{-0,2} \cdot \frac{5}{9}}{0,5} \\
 &= \frac{\frac{3}{2} + \frac{1}{0,2} \cdot \frac{9}{5}}{0,5} \\
 &= \frac{\frac{3}{2} + 9}{\frac{1}{2}} \\
 &= \frac{21}{2} \cdot \frac{2}{1} = 21
 \end{aligned}$$

Cevap: D

$$\begin{aligned}
 15. \quad \frac{4 \cdot 8 \cdot 12 \cdot 16 \cdot \dots \cdot 40 \cdot 44}{12!} \\
 &= \frac{\textcircled{4} \cdot 1 \cdot \textcircled{4} \cdot 2 \cdot \textcircled{4} \cdot 3 \cdot \textcircled{4} \cdot 4 \cdot \dots \cdot \textcircled{4} \cdot 10 \cdot \textcircled{4} \cdot 11}{12!} \\
 &= \frac{4^{11} \cdot 1 \cdot 2 \cdot 3 \cdot 4 \cdot \dots \cdot 10 \cdot 11}{12!} = \frac{4^{11} \cdot 11!}{12!} \\
 &= \frac{4^{11} \cdot \cancel{11!}}{12 \cdot \cancel{11!}} \\
 &= \frac{4^{11}}{3 \cdot 4} \\
 &= \frac{4^{10}}{3} \\
 &= \frac{(2^2)^{10}}{3} = \frac{2^{20}}{3}
 \end{aligned}$$

Cevap: C

$$\begin{aligned}
 16. \quad & \frac{(0,005 \cdot 10^{35}) + (0,8 \cdot 10^{33})}{10^{32}} \\
 &= \frac{5 \cdot 10^{-3} \cdot 10^{35} + 8 \cdot 10^{-1} \cdot 10^{33}}{10^{32}} \\
 &= \frac{5 \cdot 10^{32} + 8 \cdot 10^{32}}{10^{32}} = \frac{13 \cdot 10^{32}}{10^{32}} = 13
 \end{aligned}$$

Cevap: D

$$\begin{aligned}
 17. \quad & \frac{0,0\bar{3}}{0,03} + \frac{0,0\bar{1}}{0,01} + \frac{0,0\bar{2}}{0,02} = \frac{\frac{3}{90}}{\frac{3}{100}} + \frac{\frac{1}{90}}{\frac{1}{100}} + \frac{\frac{2}{90}}{\frac{2}{100}} \\
 &= \frac{\cancel{3} \cdot \frac{100}{\cancel{3}}}{90} + \frac{\cancel{1} \cdot \frac{100}{\cancel{1}}}{90} + \frac{\cancel{2} \cdot \frac{100}{\cancel{2}}}{90} \\
 &= \frac{10}{9} + \frac{10}{9} + \frac{10}{9} \\
 &= \frac{30}{9} \\
 &= \frac{10}{3}
 \end{aligned}$$

Cevap: A

$$\begin{aligned}
 18. \quad & 3^{2-x} = 0,3 \Rightarrow 3^{2-x} = \frac{3}{9} = \frac{1}{3} = 3^{-1} \\
 & 3^{2-x} = 3^{-1} \\
 & \Rightarrow 2 - x = -1 \\
 & x = 2 + 1 = 3
 \end{aligned}$$

Cevap: B

$$\begin{aligned}
 19. \quad & \frac{x,0\bar{y} + y,0\bar{x}}{0,0\bar{x} + 0,0\bar{y}} \\
 &= \frac{\frac{x0y - x0}{90} + \frac{y0x - y0}{90}}{\frac{x}{90} + \frac{y}{90}} \\
 &= \frac{100x + y - 10x + 100y + x - 10y}{90} \cdot \frac{90}{x+y} \\
 &= \frac{91 \cdot (x+y)}{90} \cdot \frac{90}{x+y} = 91
 \end{aligned}$$

Cevap: C

$$\begin{aligned}
 20. \quad & a = 3,4\bar{5} = \frac{345 - 34}{90} = \frac{311}{90} \\
 & b = (3 - a) \cdot \frac{5}{41} = \left(3 - \frac{311}{90}\right) \cdot \frac{5}{41} \\
 &= \frac{270 - 311}{90} \cdot \frac{5}{41} \\
 &= \frac{-41}{90} \cdot \frac{5}{41} \\
 &= -\frac{1}{18}
 \end{aligned}$$

Cevap: B