

$$\begin{aligned}
 1. \quad \left(\frac{1}{4x}\right)^x &= 9^x \\
 4 &= 9^x \\
 2^2 &= (3^x)^2 \\
 3^x &= 2 \\
 3^{3x+1} &= (3^x)^3 \cdot 3 \\
 &= 2^3 \cdot 3 = 24
 \end{aligned}$$

Cevap: B

$$\begin{aligned}
 2. \quad 4^x + 4^y &= 10 \\
 4^x - 4^y &= 8 \\
 \hline
 2 \cdot 4^x &= 18
 \end{aligned}$$

$$\begin{aligned}
 4^x = 9 &\Rightarrow (2^x)^2 = 3^2 \Rightarrow 2^x = 3 \\
 4^y = 1 &\Rightarrow (2^y)^2 = 1 \Rightarrow 2^y = 1 \\
 \left. \begin{array}{l} 2^{x+y} = 2^x \cdot 2^y \\ = 3 \cdot 1 \\ = 3 \end{array} \right\} &
 \end{aligned}$$

Cevap: B

$$\begin{aligned}
 3. \quad \frac{4\sqrt{5}}{\sqrt{2}} - \frac{5\sqrt{2}}{\sqrt{5}} &= \frac{20}{\sqrt{10}} - \frac{10}{\sqrt{10}} \\
 &= \frac{10}{\sqrt{10}} = \frac{10\sqrt{10}}{10} \\
 &= \sqrt{10}
 \end{aligned}$$

Cevap: D

$$4. \quad \frac{4 \cdot n(n-1)(n-2)! - 3 \cdot (n-1)(n-2)!}{2 \cdot (n-2)!} = 34$$

$$\frac{(n-1) - (4n-3)}{2} = 34$$

$$(n-1)(4n-3) = 68$$

$$n = 5$$

Cevap: E

5. ab iki basamaklı sayı olsun.

$$\frac{a+b}{2} = \text{Asal}$$

$$\frac{a+b}{2} = 2 \Rightarrow a+b = 4$$

$$\left. \begin{array}{l} 1 \ 3 \\ 2 \ 2 \\ 3 \ 1 \\ 4 \ 0 \end{array} \right\} 4 \text{ tane}$$

$$\frac{a+b}{2} = 3 \Rightarrow a+b = 6$$

$$\left. \begin{array}{l} 1 \ 5 \\ 2 \ 4 \\ 3 \ 3 \\ 4 \ 2 \\ 5 \ 1 \\ 6 \ 0 \end{array} \right\} 6 \text{ tane}$$

$$\frac{a+b}{2} = 5 \Rightarrow a+b = 10$$

$$\left. \begin{array}{l} 1 \ 9 \\ 2 \ 8 \\ 3 \ 7 \\ 4 \ 6 \\ 5 \ 5 \\ 6 \ 4 \\ 7 \ 3 \\ 8 \ 2 \\ 9 \ 1 \end{array} \right\} 9 \text{ tane}$$

$$\frac{a+b}{2} = 7 \Rightarrow a+b = 14$$

$$\left. \begin{array}{l} 5 \ 9 \\ 6 \ 8 \\ 7 \ 7 \\ 8 \ 6 \\ 9 \ 5 \end{array} \right\} 5 \text{ tane}$$

$$4 + 6 + 9 + 5 = 24 \text{ tane}$$

Cevap: E

$$6. \quad \frac{AB+3}{5} = 5k$$

$$AB+3 = 25k$$

$$AB = 22$$

$$47$$

$$72$$

$$97$$

AB+3 sayısının tek olması için
AB → 47 ve 97 olamaz.

$$22 + 72 = 94$$

Cevap: E

14. $A \rightarrow 20x$
 $B \rightarrow 10x$

$$30x + B = 30x \cdot \frac{130}{100}$$

$$30x + B = 39x$$

$$B = 9x$$

$$10x \cdot \frac{a}{100} = 9x$$

$$a = 90 \rightarrow \%10 \text{ zarar}$$

Cevap: B

15. $\frac{1}{x} + \frac{1}{x} = \frac{1}{4}$

$$\frac{1}{x} + \frac{2}{x} = \frac{1}{4}$$

$$\frac{3}{x} = \frac{1}{4} \Rightarrow x = 12$$

Cevap: C

16. Karışım = $5x$ olsun.

$$\begin{array}{|c|} \hline 5x \\ \hline \%20 \\ \hline \end{array} - \begin{array}{|c|} \hline x \\ \hline \%20 \\ \hline \end{array} + \begin{array}{|c|} \hline x \\ \hline \%0 \\ \hline \end{array} = \begin{array}{|c|} \hline 5x \\ \hline ? \\ \hline \end{array}$$

$$5x \cdot 20 - x \cdot 20 + x \cdot 0 = 5x \cdot ?$$

$$80x = 5x \cdot ?$$

$$? = 16$$

Cevap: A

17. Tüm durum = $6 \cdot 6 = 36$

1. için \rightarrow 5 durum {2, 3, 4, 5, 6}

2. için \rightarrow 4 durum {3, 4, 5, 6}

3. için \rightarrow 3 durum {4, 5, 6}

4. için \rightarrow 2 durum {5, 6}

5. için \rightarrow 1 durum {6}

$$\begin{array}{r} + \\ \hline 15 \text{ durum} \end{array}$$

Cevap: D

18. $A \rightarrow 5 \text{ dk } 100 \text{ cm}^3$
 $1 \text{ dk } 20 \text{ cm}^3$

$B \rightarrow 2 \text{ dk } 100 \text{ cm}^3$
 $1 \text{ dk } 50 \text{ cm}^3$

$A \rightarrow 1 \text{ dk } 20 \text{ cm}^3$
 $36 \text{ dk } 720 \text{ cm}^3$

$B \rightarrow 1 \text{ dk } 50 \text{ cm}^3$
 $36 \text{ dk } 1800 \text{ cm}^3$

$$1800 + 720 = 2520 \text{ cm}^3$$

$1 \text{ dk } 50 \text{ cm}^3$
 $x \quad 2520 \text{ cm}^3$

D.O $x = 42 \text{ dk}$

Cevap: D

TASARI AKADEMI YAYINLARI

19.

1	2	3	4	5	6	7	8
1	0	2	0	2	1	1	1

$$2 + 4 + 6 + 7 = 19$$

Cevap: B

20.

1	2	3	4	5	6	7	8
1	1	1	1	1	1	1	1

$$2 + 3 + 6 + 7 = 18$$

Cevap: C

21.

1	2	3	4	5	6	7	8
	2		2		2		1

$$2 + 2 + 2 + 1 = 7$$

Cevap: C

22. $\leftarrow (\rightarrow (234))$

$$\leftarrow (123) = 231$$

Cevap: D

23. $(\rightarrow (\rightarrow (ABC)) + (\leftarrow (\leftarrow (ABC))))$



$$110 - A + 100C + 11 = 526$$

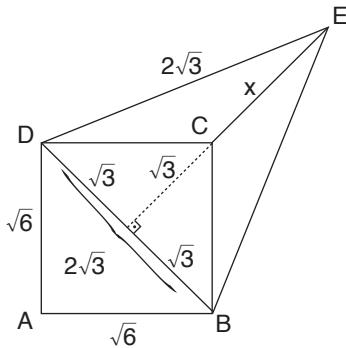
$$100C + A = 405$$



$$4 + 5 = 9$$

Cevap: D

24.



$$(\sqrt{3} + x)^2 + 3 = 12$$

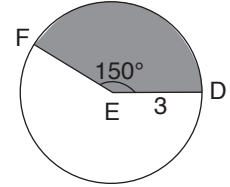
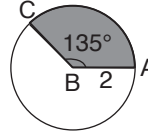
$$(\sqrt{3} + x)^2 = 9$$

$$\sqrt{3} + x = 3$$

$$x = 3 - \sqrt{3}$$

Cevap: B

25.



$$ABC \rightarrow \pi \cdot \frac{135}{360} \cdot \frac{3}{2}$$

$$DEF \rightarrow \pi \cdot \frac{150}{360} \cdot \frac{5}{4}$$

$$\rightarrow \frac{3\pi}{2}$$

$$\rightarrow \frac{15\pi}{4}$$

$$\frac{ABC}{DEF} = \frac{\frac{3\pi}{2}}{\frac{15\pi}{4}} = \frac{1}{2} \cdot \frac{2}{5} = \frac{2}{5}$$

Cevap: A