

1. $\left(\frac{8}{3}-\frac{9}{4}\right)\cdot\left(4+\frac{4}{5}\right)$
 $\Rightarrow\left(\frac{32-27}{12}\right)\cdot\left(\frac{24}{5}\right)=\frac{5}{12}\cdot\frac{24}{5}=2$

Cevap: E

2. $\frac{4\cdot 3^a}{3^a\cdot 4^a}=2^{-8}\Rightarrow 4^{1-a}=2^{-8}$
 $\Rightarrow 2^{2-2a}=2^{-8}\rightarrow 2-2a=-8$
 $10=2a$
 $a=5$

Cevap: D

3. $\sqrt[3]{\sqrt{28}-1}=\sqrt[3]{\sqrt{28}+1}=\sqrt[3]{28-1}=\sqrt[3]{27}$
 $=\sqrt[3]{27}$
 $=\sqrt[3]{3^3}$
 $=3$

Cevap: B

4. $6!(8\cdot 7+7+1)=2^x\cdot y$
 $6!64=2^x\cdot y$
 $720\cdot 64=2^x\cdot y\Rightarrow 2^4\cdot 3^2\cdot 5\cdot 2^6=2^x\cdot y$
 $\Rightarrow 2^{10}\cdot 3^2\cdot 5=2^x\cdot y$
 $2^{10}=2^x \quad 3^2\cdot 5=y$
 $x=10 \quad 45=y$
 $x+y=10+45=55$

Cevap: C

5. $\frac{(x^2-y^2)}{xy^3}\cdot x+\frac{1}{y}$
 $\Rightarrow \frac{x^2-y^2}{y^3}+\frac{1}{(y^2)}\Rightarrow \frac{x^2-y^2+y^2}{y^3}=\frac{x^2}{y^3}$

Cevap: A

6. I. kap II. kap
 $\square \quad \square$
 $4a \quad a+9$
 $II < I \rightarrow a+9 < 4a$
 $9 < 3a$
 $3 < a$

Cevap: E

7. $-\frac{3}{2} < x < \frac{7}{2}$
 $-\frac{7}{2} < -x < \frac{3}{2}$
 $-\frac{7}{2}+5 < 5-x < \frac{3}{2}+5$
 $\frac{3}{2} < 5-x < \frac{13}{2} \rightarrow 1,5 < 5-x < 6,5$
 $5-x=2, 3, 4, 5, 6$
 $=20$

Cevap: D

8. $a=3b \quad a=-3b$
 $\cdot |3b+2b|=10 \quad |3b+2b|=10$
 $5b=10 \quad 5b=-10 \quad |-b|=10 \quad |-b|=-10$
 $b=2 \quad b=-2 \quad b=10 \quad b=-10$
 $a=6 \quad a=-6 \quad a=-30 \quad a=30$
 $6+2=8 \quad -6-2=-8 \quad -30+10=-20 \quad 30-10=20$

Cevap: A

9. $ABC \rightarrow A = B + C$ $A=B+C$ $A=B+C$

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

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

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

$$\left. \begin{array}{l} A = B + C \\ 4 = 4 + 0 \\ 4 = 3 + 1 \\ 4 = 2 + 2 \\ 4 = 1 + 3 \\ 4 = 0 + 4 \end{array} \right\} 5 \text{ tane}$$

$5 + 4 + 3 + 2 = 14$

Cevap: C

10. $\frac{I}{x} = 6$ $\frac{II}{35-x} = 8$

$A = 6x$ $B = 280 - 8x$

$A + B = 6x + 280 - 8x = 250$

$+2x = 30$

$x = 15$

$35 - 15 = 20$

Cevap: D

11. Sınıfın tamamı = $100x$ olsun.

$100x \cdot \%60 = 60x \rightarrow$ Çankırı'ya gidenler \rightarrow

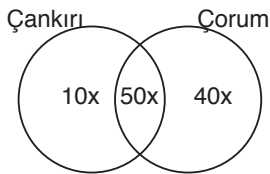
$60x \cdot \%20 = 12x$ kız öğrenci

$100x \cdot \%90 = 90x \rightarrow$ Çorum'a gidenler

$s(A \cup B) = s(A) + s(B) - s(A \cap B)$

$\%100 = \%60 + \%90 - s(A \cap B)$

$s(A \cap B) = \%50$



10 x yalnızca Çankırı'ya giden kızların sayısıdır. Hem Çankırı hem de Çorum'a giden kız öğrenci sayısı en az olmalıdır. O halde ikisine de giden kızların sayısı 2x olmalıdır.

$100x \cdot \frac{A}{100} = 2x$ $A = \%2$

Cevap: B

12. Ali Berk

$100x$ $500 - 100x$

$500 - 100x \cdot \frac{30}{100} = 500 - 30x$

Erkek $\rightarrow 40x$ $350 - 70x$

Kadın $\rightarrow 60x$ $150 - 30x$

$500 \cdot \%61 = 305$ erkek

$40x + 350 - 70x = 305$

$30x = 45$

$x = \frac{3}{2}$

Ali

$100 \cdot \frac{3}{2} = 150$

Cevap: B

13. Nihan Seda

1984 $x-y$ yıl y $x-y$ yıl $2y-x$

Şimdiki=A yıl olsun x $x-y$ yıl y $x-y$

2020 $2x-y$ x

$A - 1984 = y$

$+ 2020 - A = x$

$36 = x+y$

$2y - x = x$

$y = x$

$x+y = 36 \rightarrow 18 + 18 = 36$

$2020 - 18 = 2002$

Cevap: C

14. $\frac{I}{3k}$ $\frac{II}{2k}$ $\frac{III}{k}$

$3k + 2k + k = 6k$ $\frac{I}{540}$ $\frac{II}{360}$ $\frac{III}{180}$

500 TL 350 TL 150 TL

$1080 \mid 6 \quad k = 180$ $500 + 350 + 150 = 1000 \text{ TL}$

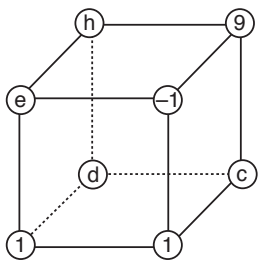
$\frac{180}{0}$

Cevap: D

15. $\frac{x-2}{3} = a$ $x-2 = 3a$
 $x = 3.a + 2$
 $f(a) = a \rightarrow 2.(3a+2)+1=a$
 $6a + 5 = a$
 $5a = -5$
 $a = -1$

Cevap: B

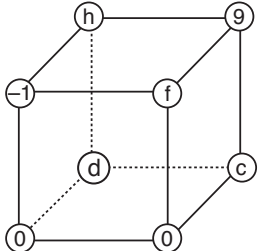
16. $(1 \Delta x) = 1^2 - 3^x$
 $3 \Delta (1 - 3^x) = \frac{80}{9}$
 $3^2 - 3^{1-3^x} = \frac{80}{9} \rightarrow 9 - \frac{80}{9} = 3^{1-3^x}$
 $\frac{1}{9} = 3^{1-3^x} \rightarrow 3^{-2} = 3^{1-3^x}$
 $-2 = 1 - 3^x \Rightarrow 3^x = 3$
 $x = 1$

17. 

$h = e + g + d \Rightarrow \boxed{h=e} \dots (1)$
 $g = h + c - 1 \Rightarrow \boxed{g=h} \dots (2)$
 $c = g + 1 + d \Rightarrow \boxed{g=-d}$
 $1 = c + 1 - 1 \Rightarrow \boxed{c=1}$
 $1 = 1 + d + e \Rightarrow \boxed{d=-e}$

$-1 = e + g + 1 \Rightarrow e + g = -2 \dots (3)$
 (1) ve (2)'den $g = e$
 (3)'te yerine yazılırsa $2e = -2 \Rightarrow e = -1$
 $e = h$ olduğundan $h = -1$
 $e + h = -2$ elde edilir.

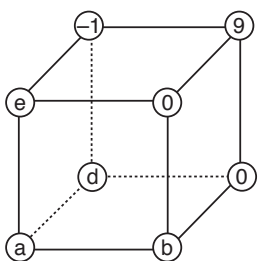
Cevap: A

18. 

$h = d + g - 1 \dots (1)$
 $d = 0 + c + h \dots (2)$
 (2) , (1)'de yerine yazılırsa
 $h = c + h + g - 1 \Rightarrow c + g = 1$
 elde edilir.

Cevap: D

Cevap: D

19. 

$a = e + d + b$
 $b = a + 0 + 0 \Rightarrow b = a \dots (1)$
 $e = a + 0 - 1 \Rightarrow e = a - 1 \dots (2)$
 $d = a - 1 + 0 \Rightarrow d = a - 1$
 $g = -1 + 0 + 0 \Rightarrow g = -1 \dots (3)$

$0 = e + g + b$
 (1) , (2) , ve (3)'ten
 $0 = a - 1 - 1 + a \Rightarrow \boxed{a = 1}$
 $a = b$ olduğundan $\boxed{b = 1}$
 $a + b = 2$ elde edilir.

Cevap: E

20. $5 \text{ kat} \left(\frac{4 \text{ kulaçta}}{20 \text{ kulaçta}} \quad \frac{7 \text{ metre}}{x} \right) 5 \text{ kat}$
 $x = 7.5 = 35 \text{ m}$

Cevap: C

21.
$$8 \text{ kat} \left(\begin{array}{l} 4 \text{ kulaçta} \\ x \end{array} \right) \frac{7 \text{ metre}}{56 \text{ metre}} \left. \vphantom{\begin{array}{l} 4 \text{ kulaçta} \\ x \end{array}} \right\} 5 \text{ kat}$$

$$x = 4.8 = 32 \text{ kulaç}$$

Cevap: B

22. Her 4 kulaçta $\sqrt{3}$ m kaymakta

$$41 \left| \begin{array}{l} 4 \\ 10 \end{array} \right.$$

$$10 \cdot \sqrt{3} = 10\sqrt{3}$$

Cevap: D

23. OKEK(5, 4) = 20

İlk deneme yapıldı kaldı 12 deneme.

$$20 \cdot 12 = 240$$

$$\begin{array}{r} 240 \overline{) 7} \\ 21 \overline{) 34} \end{array}$$

$$\begin{array}{r} 30 \\ \underline{28} \\ (2) \rightarrow \text{kalan} \end{array} \quad \begin{array}{l} 0 \\ \text{salı} \end{array} \quad \begin{array}{l} 1 \\ \text{çarş.} \end{array} \quad \begin{array}{l} 2 \\ \text{perş.} \end{array}$$

Cevap: A

24. — K₁ — K₂ — K₃ — K₄ —

$$5 \text{ boşluk} \binom{5}{3} \cdot 3! \cdot 4! = 10 \cdot 6 \cdot 24 = 1440$$

\downarrow \downarrow
 Salih Diğer 4
 Umut ve kişinin
 Halide'nin yer
 yer değiştirilmesi
 değiştirilmesi

Cevap: A

25.

1 kırmızı
2 beyaz
1 mavi

$$\frac{K}{1} \quad \frac{B}{2} \quad \frac{M}{1} \cdot 3! \rightarrow \text{renklerin kendi aralarında yer değiştirilmesi}$$

$$= \frac{1}{4} \cdot \frac{2}{3} \cdot \frac{1}{2} \cdot 6 \Rightarrow \frac{12}{24} = \frac{1}{2}$$

Cevap: A