

$$1. 6 + \frac{2 - \frac{3}{4}}{\frac{3}{4} - 1} = 6 + \frac{\frac{5}{4}}{\frac{-1}{4}}$$

$$6 + \frac{5}{\cancel{4}} \cdot \frac{\cancel{4}}{-1} = 6 - 5 = 1$$

En büyük negatif tek sayının karesidir. $(-1)^2 = 1$

Cevap: D

$$2. \frac{3}{7} \neq \frac{1}{9} = \frac{3}{27} \quad (I)$$

$$\frac{2}{3} = \frac{2}{3} \cdot \frac{4}{4} = \frac{8}{12} \quad (II)$$

$$2 \frac{1}{5} = \frac{11}{5} \neq \frac{2}{5} \quad (III)$$

$$\frac{5}{9} \neq \frac{7}{14} \quad (IV)$$

I ve III yanlıştır.

Cevap: A

OKS DERGİSİ

$$3. \left| -\frac{1}{3} \right| = \frac{1}{3} \text{ olduğuna göre } -\frac{1}{3}$$

basit kesirdir.

Cevap: B

$$4. \left[a + \frac{a}{b} \right] : \left[2 + \frac{2}{b} \right]$$

$$= \left[\frac{a \cdot b + a}{b} \right] : \left[\frac{2b + 2}{b} \right]$$

$$= \left[\frac{a(b+1)}{b} \right] : \left[\frac{2(b+1)}{b} \right]$$

$$= \frac{a(b+1)}{b} \cdot \frac{b}{2(b+1)}$$

$$= \frac{a}{2}$$

Cevap: C

$$5. a - \frac{2}{7} = b + \frac{5}{3}$$

$$\Rightarrow a - b = \frac{5}{3} + \frac{2}{7} = \frac{35 + 6}{21}$$

$$a - b = \frac{41}{21}$$

Cevap: D

$$6. \frac{\frac{4}{4}}{\frac{6}{6}} - \frac{\frac{2}{4}}{\frac{6}{6}} = 4 \cdot \frac{6}{4} - \frac{2}{4} \cdot \frac{1}{6}$$

$$= 6 - \frac{2}{24} = 6 - \frac{1}{12} = \frac{71}{12}$$

Cevap: C

$$7. \frac{1}{9} + \left(\frac{1}{5} - \frac{1}{7} \right) - \left(\frac{1}{5} - \frac{1}{7} - \frac{8}{9} \right) =$$

$$= \frac{1}{9} + \frac{1}{5} - \frac{1}{7} - \frac{1}{5} + \frac{1}{7} + \frac{8}{9} = \frac{9}{9} = 1$$

Uyarı: Bu tip sorularda öncelikle parantezler açılır.

Cevap: B

$$8. \frac{1}{3} \cdot \frac{\frac{1}{8} \cdot \frac{1}{6} \cdot \frac{2}{5}}{\frac{1}{5} \cdot \frac{1}{12} \cdot \frac{1}{8}} =$$

$$= \frac{1}{3} \cdot \left(\frac{1}{6} \cdot \frac{2}{5} \cdot \frac{5}{1} \cdot \frac{12}{1} \right)$$

$$= \frac{1}{3} \cdot \frac{1}{\cancel{8}} \cdot \frac{\cancel{2}^1}{\cancel{8}^1} \cdot 5 \cdot 12^4$$

$$= \frac{4}{3}$$

Cevap: A

9. Payları eşitleyelim:

$$a = \frac{3}{4} \cdot \frac{20}{20} = \frac{60}{80}$$

$$b = \frac{4}{5} \cdot \frac{15}{15} = \frac{60}{75}$$

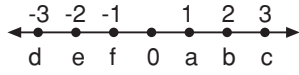
$$c = \frac{5}{6} \cdot \frac{12}{12} = \frac{60}{72}$$

Paydası küçük olan kesir daha büyük olduğundan

$c > b > a$ 'dır.

Cevap: A

10.



$$\frac{d-e}{f} = \frac{-3 - (-2)}{-1} = \frac{-1}{-1} = 1$$

$$\frac{c-f}{b} = \frac{3 - (-1)}{2} = \frac{4}{2} = 2$$

$$\frac{a-f}{b} = \frac{1 - (-1)}{2} = \frac{2}{2} = 1$$

$$\frac{c-d}{b} = \frac{3-1}{2} = 1$$

olduğundan $\frac{c-f}{b}$ diğerlerinden farklıdır.

Cevap: B

11. $\frac{51}{16} = 3\frac{3}{16}$ şeklinde yazılır.

$$3\frac{3}{16} = a\frac{b}{c} \Rightarrow \begin{aligned} a &= 3 \\ b &= 3 \\ c &= 16 \end{aligned}$$

$$\Rightarrow a + b + c = 3 + 3 + 16 = 22$$

Cevap: A

12. I doğrudur.

II. doğrudur.

III. doğrudur.

IV. doğrudur.

Cevap: A

13.

$$\begin{array}{r|l} 113 & \begin{array}{l} 4 \rightarrow \text{Payda} \\ 28 \rightarrow \text{Tam kısım} \end{array} \\ \hline -8 & \\ \hline 33 & \\ -32 & \\ \hline 1 & \rightarrow \text{Pay} \end{array}$$

$$\Rightarrow 28\frac{1}{4}$$

Cevap: D

14. $-4, \frac{-7}{2}, -1, 1, \frac{3}{2}, 4, \frac{13}{2}$

kesirlerinin hepsi bileşik kesirdir.

Cevap: A

$$\begin{aligned} 15. \quad 23\frac{1}{3} + 24\frac{1}{2} &= 47 + \frac{1}{2} + \frac{1}{2} \\ &= 47 + \frac{1}{(3)} + \frac{1}{(2)} \\ &= 47 + \frac{5}{6} = 47\frac{5}{6} \end{aligned}$$

Cevap: C

16. Önce parantezleri açalım:

$$\begin{aligned} &\left(\frac{1}{2} - \frac{1}{6}\right) - \left(\frac{1}{5} - \frac{1}{6}\right) = \\ &= \frac{1}{2} - \frac{1}{6} - \frac{1}{5} + \frac{1}{6} = \frac{1}{2} - \frac{1}{5} = \frac{3}{10} \end{aligned}$$

Cevap: A

17.

$$\frac{1}{4} = \frac{1}{4} : 3 = \frac{1}{4} \cdot \frac{1}{3} = \frac{1}{12}$$

Cevap: C

$$\begin{aligned} 18. \quad & 4 : (3.2) + 3 = \\ & = 4 : 6 + 3 = \frac{4}{6} + 3 \\ & = \frac{\cancel{22}}{\cancel{6}} = \frac{11}{3} \end{aligned}$$

Cevap: D

$$19. \quad \frac{0,56}{0,0014} = \frac{\cancel{5600}}{\cancel{14}} = 400 \text{ katıdır.}$$

Cevap: A

$$\begin{aligned} 20. \quad & 1 + \left(3 - \frac{1}{2}\right) + 3 \frac{1}{2} = \\ & = 1 + 3 - \frac{1}{2} + 3 + \frac{1}{2} \\ & = 1 + 3 + 3 = 7 \end{aligned}$$

Cevap: D

OKS DERGİSİ.

$$1. \frac{\frac{1}{9} + \frac{29-2}{9}}{\frac{113-1}{99}} : \left(\frac{219-21}{9} \right) =$$

$$= \frac{\frac{28}{9}}{\frac{112}{99}} : \frac{198}{9} = \left(\frac{\frac{28}{9} \cdot \frac{99}{112}}{1} \right) \cdot \frac{9}{198}$$

$$= \frac{11}{4} \cdot \frac{9}{198} = \frac{1}{8}$$

Cevap: A

$$2. \frac{\frac{202}{20200} + \frac{303}{30300} - \frac{22}{2200}}{1} =$$

$$= \frac{1}{100} + \frac{1}{100} - \frac{1}{100} = \frac{1}{100} = 0,01$$

Cevap: A

$$3. \frac{\frac{23}{230} + \frac{23}{2300} - \frac{45}{450}}{1} =$$

$$= \frac{1}{10} + \frac{1}{100} - \frac{1}{10} = \frac{1}{100}$$

Cevap: C

$$4. [2 + 3 \cdot 4 - (2 + 6 : 3) - 2] - 3$$

$$= [2 + 12 - (2 + 2) - 2] - 3$$

$$= [14 - 4 - 2] - 3 = 8 - 3 = 5$$

Cevap: C

$$5. x = \frac{4}{9}, y = \frac{5}{9} \text{ 'dur.}$$

$$\frac{x+y}{x} + \frac{y}{x-y} = \frac{\frac{4}{9} + \frac{5}{9}}{\frac{4}{9}} + \frac{\frac{5}{9}}{\frac{4}{9} - \frac{5}{9}}$$

$$= \frac{\frac{9}{9}}{\frac{4}{9}} + \frac{\frac{5}{9}}{-\frac{1}{9}} = \frac{1}{4} + \frac{5}{9} \cdot \frac{9}{-1}$$

$$= \frac{9}{4} - 5 = \frac{-11}{4}$$

Cevap: A

$$6. 90 - (64 : 8) \cdot 3 + 4$$

$$= 90 - 8 \cdot 3 + 4$$

$$= 90 - 24 + 4 = 70$$

Cevap: D

$$7. = \frac{330}{3} \cdot \frac{8}{80} \cdot \frac{55}{110}$$

$$= 110 \cdot \frac{1}{10} \cdot \frac{1}{2} = \frac{11}{2} = 5,5$$

Cevap: D

$$8. = \frac{0,4 + 0,7}{0,4 + 0,5} = \frac{1,1}{\frac{4}{9} + \frac{7}{9}}$$

$$= \frac{1,1}{\frac{11}{9}} = \frac{11}{10} \cdot \frac{9}{11} = \frac{9}{10} = 0,9$$

Cevap: D

$$9. \frac{40}{8} + \frac{169}{13} + \frac{30}{5}$$

$$= 5 + 13 + 6 = 24$$

Cevap: D

$$10. \begin{array}{l} a, abc \\ c, 7aa \\ a, dc2 \end{array}$$

$$\begin{array}{|c|c|c|} \hline a & a & c \\ \hline c & 7 & a \\ \hline a & d & c \\ \hline \end{array} \begin{array}{l} \\ \\ 2 \end{array} \text{ 'dir.}$$

I III II

(I.) sütuna göre $a + c = a$

$$\Rightarrow \boxed{c = 0} \text{ bulunur.}$$

II. sütuna göre $2 + a = c = 0$

$$\Rightarrow \boxed{a = 8} \text{ olur.}$$

$$\Rightarrow b = c + a + 1 = 8 + 1 = 9 \text{ (1 onluk III. sütuna atıldı)}$$

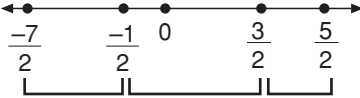
$$\Rightarrow d + 7 = a = 8 \Rightarrow \boxed{d = 1}$$

$$\Rightarrow a + b + c + d = 8 + 9 + 0 + 1$$

$$= 18$$

Cevap: B

OKS DERGİSİ

11. 

$$\frac{-1}{2} - \frac{-7}{2} = 3 \quad \frac{3}{2} - \frac{-1}{2} = 2 \quad \frac{5}{2} - \frac{3}{2} = 1$$

Cevap: B

12.
$$\frac{0,25 + \frac{1}{2} - \frac{1}{4} - 0,5}{2,5 + 0,1 - 1}$$

$$\frac{\frac{1}{4} + \frac{1}{2} - \frac{1}{4} - \frac{1}{2}}{2,5 + 0,1 - 1} = \frac{0}{2,5 + 0,1 - 1}$$

= 0 bulunur.

Cevap: D

13.
$$\frac{0,5}{0,6 + \frac{1}{0,5 + \frac{1}{0,5}}} = \frac{\frac{1}{2}}{0,6 + \frac{1}{\frac{1}{2} + \frac{1}{\frac{1}{2}}}}$$

$$= \frac{\frac{1}{2}}{0,6 + \frac{1}{\frac{1}{2} + 2}}$$

$$= \frac{\frac{1}{2}}{0,6 + \frac{1}{\frac{5}{2}}} = \frac{\frac{1}{2}}{0,6 + \frac{2}{5}} = \frac{\frac{1}{2}}{0,6 + 0,4}$$

$$= \frac{\frac{1}{2}}{1} = \frac{1}{2}$$

Cevap: B

14. $0,1 = \frac{1}{10} < \frac{1}{2} < 1$ doğru

$0,15 = \frac{15}{100} = \frac{3}{20} < 0,2 = \frac{2}{10} = \frac{4}{20} < 2$ doğru

C şıkkında $0,115 < 0,113$ ifadesi yanlıştır.

$$\frac{115}{1000} < \frac{113}{1000}$$

5 < 3

Cevap: C

15. $a = \frac{1}{0,01}$, $b = \frac{1}{0,02}$, $c = \frac{1}{0,04}$ paylar aynı olduğundan paydası küçük olan daha büyüktür.

$0,01 < 0,02 < 0,04$

$a > b > c$ olur.

Cevap: D

16. $5,365 < 5, \square$

$3 < \square$ olmak zorundadır.

$\Rightarrow \square = 4, 5, 6, 7, 8, 9$ değerlerini alır.

Cevap: A

17. xy iki basamaklı olduğundan

$$\frac{\frac{x}{100} + \frac{y}{100}}{\frac{x}{99} + \frac{y}{99}} = \frac{\frac{x+y}{100}}{\frac{x+y}{99}}$$

$$= \frac{x+y}{10} \cdot \frac{99}{x+y} = \frac{99}{100} = 0,99$$

Cevap: C

18. $\frac{ab0}{ab} + \frac{c0d0}{c0d} = \frac{efef0}{efef}$

$$= 10 + 10 + 10 = 30$$

Cevap: C

$$19. 0,125 = \frac{125}{1000} = \frac{1}{8} \text{ olur.}$$

$$\Rightarrow \frac{1}{9} < \frac{1}{8} \text{ 'dir.}$$

Cevap: D

$$20. \frac{\frac{2}{9} + \frac{3}{9}}{\frac{2}{9} - \frac{3}{9}} = \frac{\frac{5}{9}}{\frac{-1}{9}}$$
$$= \frac{5}{9} \cdot \frac{9}{-1} = -5$$

Cevap: A

OKS DERSİ

$$1. \quad \frac{4 - \frac{1}{3} \cdot \frac{3}{2}}{4 + \frac{1}{3} \cdot \frac{3}{2}} = \frac{4 - \frac{1}{2}}{4 + \frac{1}{2}} = \frac{\frac{7}{2}}{\frac{9}{2}}$$

$$= \frac{7}{2} \cdot \frac{2}{9} = \frac{7}{9}$$

Cevap: B

2. $\sqrt{5}$ irrasyonel sayıdır.

1 tane

Cevap: A

$$3. \quad \frac{-7}{12}, \frac{4}{-11}, \frac{-4}{9}, \frac{2}{3}$$

kesirlerinin payı paydasından mutlak değerce küçük olduğundan basit kesirdir.

4 tane

Cevap: B

4. Paydaları eşitleyelim:

$$x = \frac{1}{77} \cdot \frac{100}{100} = \frac{100}{7700}$$

$$y = \frac{10}{777} \cdot \frac{10}{10} = \frac{10}{7770}$$

$$z = \frac{100}{7777}$$

Paydası küçük olan daha büyüktür.

 $x > y > z$ olur.

Cevap: B

5. $x = \frac{1}{2}$ alınırsa

$$x > x^2 > x^3$$

$$\downarrow \quad \downarrow \quad \downarrow$$

$$\frac{1}{2} > \left(\frac{1}{2}\right)^2 > \left(\frac{1}{2}\right)^3 \Rightarrow \frac{1}{2} > \frac{1}{4} > \frac{1}{8} \text{ elde edilir.}$$

$$0 < \frac{1}{2} < 1 \Rightarrow (0, 1) \text{ aralığı aradığımız cevaptır.}$$

0 ile 1 arasındaki sayıların kuvvetleri büyüdükçe sayı küçülür.

Cevap: C

6. Payda eşitleyelim:

$$x = \frac{13}{10} \cdot \frac{100}{100} = \frac{1300}{1000}$$

$$y = \frac{1313}{1000}$$

$$z = \frac{133}{100} \cdot \frac{10}{10} = \frac{1330}{1000}$$

Payı büyük olan daha büyüktür.

$$z > y > x$$

Cevap: A

7. $0 < a < b < c$ olduğuna göre, $a = 1$, $b = 2$, $c = 3$ alınabilir.

$$\frac{a-c}{b+c} = \frac{1-3}{2+3} = \frac{-2}{5} < 0$$

$$\frac{b-c}{c-b} = -1 < 0$$

$$\frac{b-a}{b-c} = \frac{2-1}{2-3} = -1 < 0$$

$$\frac{c-a}{b-a} = \frac{3-1}{2-1} = \frac{2}{1} = 2 > 0$$

Cevap: D

8. a , b ve c yi pozitif gibi düşünersek sıralama;

$$b > a > c \text{ olur.}$$

Negatif olduğundan sıralama tersine döner ve

$$c > a > b \text{ olur.}$$

Cevap: B

$$9. \quad \frac{1 + \frac{1}{2}}{1 - \frac{1}{3}} + \frac{1 - \frac{1}{2}}{1 + \frac{1}{3}} = \frac{\frac{3}{2}}{\frac{2}{3}} + \frac{\frac{1}{2}}{\frac{4}{3}}$$

$$= \frac{3}{2} \cdot \frac{3}{2} + \frac{1}{2} \cdot \frac{3}{4} = \frac{9}{4} + \frac{3}{8} = \frac{21}{8}$$

Cevap: D

10. Parantezleri açalım:

$$\frac{1}{2} + \frac{1}{3} + \frac{1}{6} - \frac{1}{3} + \frac{1}{2} - \frac{1}{6}$$

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

Cevap: A

11.

$$\frac{\frac{1}{3}}{1 + \frac{1}{1 + \frac{1}{2}}} = \frac{\frac{1}{3}}{1 + \frac{1}{\frac{3}{2}}}$$

$$= \frac{\frac{1}{3}}{1 + \frac{2}{3}} = \frac{\frac{1}{3}}{\frac{5}{3}} = \frac{1}{3} \cdot \frac{3}{5} = \frac{1}{5}$$

Cevap: B

12. $48 \cdot 0,5 = 48 \cdot \frac{1}{2} = 24$

Cevap: D

13.
$$\begin{array}{r} 0,134 \\ + 0,866 \\ \hline 1,000 = 1 \end{array}$$

Cevap: A

14. $0,14141414\dots = 0,\overline{14} = \frac{14}{99}$

Cevap: B

15. $0,\overline{12} + 0,\overline{15} = \frac{12}{99} + \frac{15}{99}$

$$= \frac{\cancel{27}}{\cancel{99}} = \frac{3}{11}$$

Cevap: C

16.

$$\frac{0,\overline{4} + 0,\overline{6}}{0,\overline{3} + 0,\overline{7}} = \frac{\frac{4}{9} + \frac{6}{9}}{\frac{3}{9} + \frac{7}{9}}$$

$$= \frac{\frac{10}{9}}{\frac{10}{9}} = 1$$

Cevap: A

17.

$$\frac{0,\overline{4}}{0,\overline{5} + 0,\overline{3}} = \frac{\frac{4}{9}}{\frac{5}{9} - \frac{3}{9}} = \frac{\frac{4}{9}}{\frac{2}{9}}$$

$$= \frac{4}{\cancel{9}} \cdot \frac{\cancel{9}}{2} = 2$$

Cevap: B

Cevap: D

18. $\frac{42}{21} + \frac{8}{4} = 2 + 2 = 4$

Cevap: B

Cevap: A

19. $0,13\overline{2} = \frac{132 - 13}{900}$

$$= \frac{119}{900}$$

Cevap: A

20. $0,24\overline{2} = \frac{242 - 2}{990}$

$$= \frac{240}{990} = \frac{8}{33}$$

Cevap: D

$$1. \left(\frac{-7}{2}\right) \cdot \left(\frac{-6}{3}\right) \cdot \left(\frac{-5}{4}\right) \dots \left(\frac{0}{9}\right) \dots \left(\frac{9}{99}\right) = 0$$

Cevap: C

$$2. \frac{1 + \frac{3}{2}}{1 - \frac{3}{2}} + \left(\frac{1 - \frac{1}{2}}{2 \cdot \frac{1}{2}}\right)^{-1} =$$

$$= \frac{\frac{5}{2}}{\frac{-1}{2}} + \left(\frac{\frac{1}{2}}{\frac{5}{2}}\right)^{-1} =$$

$$= \frac{5}{2} \cdot \frac{2}{-1} + \left(\frac{1}{2} \cdot \frac{2}{5}\right)^{-1} = \frac{5}{-1} + \left(\frac{1}{5}\right)^{-1}$$

$$= -5 + 5 = 0$$

Cevap: C

$$3. \frac{\frac{2}{3}}{\frac{5}} + \frac{\frac{3}{5}}{\frac{1}{5}} : \frac{1}{5} = 2 \cdot \frac{5}{3} + \frac{\frac{3}{5}}{\frac{1}{5}} : \frac{1}{5}$$

$$= \frac{10}{3} + \left(\frac{2}{3} \cdot \frac{1}{5}\right) : \frac{1}{5} = \frac{10}{3} + \frac{2}{15} : \frac{1}{5}$$

$$= \frac{10}{3} + \frac{2}{15} \cdot \frac{5}{1} = \frac{10}{3} + \frac{2}{3} = 4$$

Cevap: A

$$4. 4 + \frac{3}{1 - \frac{3}{3}} = 4 + \frac{3}{1 - \frac{3}{3}} = 4 + \frac{3}{1 - \frac{15}{6}}$$

$$= 4 + \frac{3}{1 + \frac{1}{5}} = 4 + \frac{6}{\frac{6}{5}}$$

$$= 4 + \frac{3}{\frac{9}{6}} = 4 + \frac{18}{-9}$$

$$= 4 - 2 = 2$$

Cevap: B

$$5. \frac{\left(5 - \frac{2}{3}\right) + \left(2 - \frac{1}{3}\right)}{\left(\frac{8}{5} - 6\right) - \left(\frac{3}{5} + 1\right)} = \frac{\frac{13}{3} + \frac{5}{3}}{\frac{-22}{5} - \frac{8}{5}} = \frac{6}{-6} = -1$$

Cevap: B

$$6. \frac{1}{8} - \frac{1}{12} - \frac{1}{18} = \frac{9-6-4}{72} = \frac{-1}{72}$$

(9) (6) (4)

$$\frac{1}{8} + \frac{1}{12} + \frac{1}{18} = \frac{9+6+4}{72} = \frac{19}{72}$$

(9) (6) (4)

$$\frac{1}{8} - \frac{1}{12} - \frac{1}{18} = \frac{-1}{72}$$

$$\frac{1}{8} + \frac{1}{12} + \frac{1}{18} = \frac{19}{72} = \frac{-1}{19}$$

Cevap: C

$$7. \left[\left(\frac{5}{18} - \frac{5}{12} \right) : \left(\frac{2}{5} \right)^{-1} \right] + \left[\frac{3}{5} \cdot \left(\frac{4}{9} - \frac{3}{8} \right) \right]$$

$$= \left[5 \left(\frac{1}{18} - \frac{1}{12} \right) : \left(\frac{5}{2} \right) \right] + \left[\frac{3}{5} \left(\frac{5}{72} \right) \right]$$

$$= \left[5 \cdot \frac{-1}{36} \cdot \frac{2}{5} \right] + \left[\frac{3}{5} \cdot \frac{5}{72} \right]$$

$$= -\frac{1}{18} + \frac{1}{24} = \frac{-1}{72}$$

(4) (3)

Cevap: B

$$8. 1 + \frac{1}{1 - \frac{2}{2}} = 1 + \frac{1}{1 - \frac{2}{2}}$$

$$= 1 + \frac{1}{1 - \frac{1}{5}} = 1 + \frac{1}{\frac{4}{5}}$$

$$= 1 + \frac{1}{1 - \frac{2}{2}} = 1 + \frac{1}{1 - \frac{2}{2}}$$

$$= 1 + \frac{1}{1 + \frac{5}{4}} = 1 + \frac{1}{\frac{9}{4}}$$

$$= 1 + \frac{1}{1 - \frac{8}{9}} = 1 + \frac{1}{\frac{1}{9}} = 1 + 9 = 10$$

Cevap: D

$$\begin{aligned}
 9. & \left[1 \frac{1}{3} \cdot \left(\frac{-1}{4} \right) + \frac{1}{3} - 1 \right] : \frac{1}{5} \\
 & = \left[\frac{4}{3} \cdot \left(\frac{-1}{4} \right) - \frac{2}{3} \right] : \frac{1}{5} \\
 & = \left[\frac{-1}{3} - \frac{2}{3} \right] : \frac{1}{5} = (-1) : \frac{1}{5} = (-1) \cdot \frac{5}{1} = -5
 \end{aligned}$$

Cevap: D

$$\begin{aligned}
 10. & 1 - \frac{1}{7 + \frac{1}{2}} + \frac{1}{14} \\
 & = \frac{1 - \frac{1}{15}}{1 - \frac{1}{15}} + \frac{1}{14} \\
 & = \frac{1 - \frac{1}{15}}{\frac{2}{15}} + \frac{1}{14} = \frac{1 - \frac{2}{15}}{\frac{14}{15}} + \frac{1}{14} \\
 & = \frac{\frac{13}{15}}{\frac{14}{15}} + \frac{1}{14} \\
 & = \frac{13}{15} \cdot \frac{15}{14} + \frac{1}{14} = \frac{13}{14} + \frac{1}{14} = \frac{14}{14} = 1
 \end{aligned}$$

Cevap: C

$$11. \frac{1}{3} + \frac{1}{3} + \frac{1}{3} = \frac{3}{3} = 1 \text{ bulunur.}$$

$3 \times 1 = 3$ olur.

Cevap: B

12. $a < 0$ ise $a = -1$ alınabilir.

$$\begin{aligned}
 & \frac{|-a| - |-2a| + |3|}{|-a|} = \\
 & \frac{|-1(-1)| - |(-2)(-1)| + |(-3) \cdot (-1)|}{|-(-1)|} \\
 & \frac{|1| - |2| + |3|}{|1|} = \frac{1 - 2 + 3}{6 + 4} = \frac{2}{1} = 2
 \end{aligned}$$

Cevap: A

$$\begin{aligned}
 13. & \frac{|5| + |-5| + |-3| + |7|}{|-6| + |4|} = \frac{5 + 5 + 3 + 7}{6 + 4} \\
 & = \frac{20}{10} = 2
 \end{aligned}$$

Cevap: B

$$\begin{aligned}
 14. & 2 - \frac{4}{1 - \frac{4}{4}} : \left(\frac{1}{9} \right)^{-1} \\
 & = 2 - \frac{4}{-1} : \left(\frac{9}{1} \right)^1 \\
 & = [2 + 16] : 9 = 18 : 9 = 2
 \end{aligned}$$

Cevap: A

$$\begin{aligned}
 15. & \frac{\frac{1}{3} - \frac{1}{5} \cdot \frac{5}{3} - 2}{3 \cdot \frac{2}{1} - 5} \\
 & = \frac{\frac{1}{3} - \frac{1}{3} - 2}{6 - 5} \\
 & = \frac{-2}{1} = -2
 \end{aligned}$$

Cevap: A

$$\begin{aligned}
 16. & \left(\frac{9}{5} : \frac{3}{5} - 1 \frac{2}{3} + \frac{1}{2} \right) \cdot \frac{3}{11} \\
 & = \left(\frac{9}{5} \cdot \frac{5}{3} - \frac{5}{3} + \frac{1}{2} \right) \cdot \frac{3}{11} \\
 & = \left(3 - \frac{5}{3} + \frac{1}{2} \right) \cdot \frac{3}{11} \\
 & = \left(\frac{4}{3} + \frac{1}{2} \right) \cdot \frac{3}{11} = \frac{11}{6} \cdot \frac{3}{11} = \frac{1}{2} \\
 & \quad (2) \quad (3)
 \end{aligned}$$

Cevap: D

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$$17. \left[\frac{3}{\left(\frac{1}{3}\right)^{-1}} - 4 \right]^{-1} \cdot \left(\frac{-1}{15} \right)^{-2} =$$

$$\left[1 - 4 \right]^{-1} \cdot \left(\frac{-1}{15} \cdot \frac{1}{1} \right)^{-2}$$

$$= (-3)^{-1} \cdot \left(\frac{-1}{3}\right)^{-2}$$

$$= \left(-\frac{1}{3}\right) \cdot 9 = -3$$

$$18. \frac{16-1}{9} - \frac{\frac{6}{9}}{\frac{6}{9} + \frac{1}{2}} =$$

$$= \frac{15}{9} - \frac{\frac{6}{9}}{\frac{21}{18}} = \frac{15}{9} - \frac{2}{9} \cdot \frac{2}{7} = \frac{15}{9} - \frac{4}{63}$$

$$= \frac{15}{9} - \frac{4}{63} = \frac{105 - 4}{63} = \frac{101}{63}$$

Cevap: B

Cevap: C

$$19. \frac{1}{3} - \frac{2}{3} : \left(\frac{1}{2} - \frac{1}{3} \right) =$$

$$= \frac{1}{3} - \frac{2}{3} : \left(\frac{1}{6} \right) = \frac{1}{3} - \frac{2}{3} \cdot \frac{6}{1} = \frac{1}{3} - 4 = \frac{-11}{3}$$

Cevap: C

$$20. \frac{1}{2} \cdot \frac{2}{3} \cdot \frac{3}{4} \cdots \frac{39}{40} \cdot \frac{3}{2} \cdot \frac{4}{3} \cdot \frac{5}{4} \cdots \frac{80}{79} =$$

$$= \frac{1}{40} \cdot \frac{80}{2} = 1$$

Cevap: C

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$$1. 3 - \frac{1}{2 - \frac{1}{1 - \frac{2}{3}}} = 3 - \frac{1}{2 - \frac{1}{\frac{1}{3}}}$$

$$= 3 - \frac{1}{2 - 3} = 3 - \frac{1}{-1} = 3 + 1 = 4$$

Cevap: B

$$2. \left(\frac{3}{4} - \frac{1}{4} \cdot \frac{5}{1} - \frac{4}{5} \right) + \left(\frac{2}{3} + \frac{1}{3} \cdot \frac{4}{1} - \frac{3}{4} \right)^{-1} =$$

$$= \left(\frac{3}{4} - \frac{5}{4} - \frac{4}{5} \right) + \left(\frac{2}{3} + \frac{4}{3} - \frac{3}{4} \right)^{-1} =$$

$$= \left(\frac{-2}{4} - \frac{4}{5} \right) + \left(\frac{6}{3} - \frac{3}{4} \right)^{-1}$$

$$= \frac{-26}{20} + \frac{4}{5} = \frac{-10}{20} = \frac{-1}{2}$$

$$\left(\frac{2}{1} + \frac{1}{2} + \frac{2}{3} \right) : \left(\frac{2}{1} - \frac{1}{2} - \frac{1}{3} \right)$$

(6) (3) (2) (6) (3) (2)

Cevap: D

$$3. \frac{19}{6} : \frac{5}{6} = \frac{19}{6} \cdot \frac{6}{5} = \frac{19}{5}$$

Cevap: A

$$4. (2^{-1} + 3^{-1})^{-1} = \left(\frac{1}{2} + \frac{1}{3} \right)^{-1}$$

$$= \left(\frac{5}{6} \right)^{-1} = \frac{6}{5} = 1 \frac{1}{5}$$

Cevap: D

$$5. -\frac{\frac{1}{3} + \frac{1}{5}}{\frac{1}{3} - \frac{1}{5}} + \frac{8}{\frac{15}{2}} = \frac{8}{15} \cdot \frac{15}{2} = 4$$

Cevap: B

$$6. \left(1 - \frac{1}{13} \right) : \left(\frac{1}{13} - 1 \right)$$

$$\frac{12}{13} : \left(\frac{-12}{13} \right) = \frac{12}{13} \cdot \frac{-13}{12} = -1$$

Cevap: A

$$7. = \frac{\frac{ab}{100} + \frac{ba}{100}}{\frac{ab}{99} + \frac{ba}{99}} = \frac{\frac{ab + ba}{100}}{\frac{ab + ba}{99}} =$$

$$= \frac{ab + ba}{100} \cdot \frac{99}{ab + ba} = 0,99$$

Cevap: B

$$8. = \frac{\frac{8}{9} + \frac{2}{9}}{\frac{25}{99} + \frac{75}{99}}$$

$$= \frac{\frac{10}{9}}{\frac{100}{99}} \cdot \left(\frac{180}{9} \right)$$

$$= \frac{10}{9} \cdot \frac{99}{100} \cdot \frac{11}{10} \cdot 20$$

$$= \frac{11}{10} \cdot 20 = 22$$

Cevap: D

$$9. a = 1 \text{ alınabilir.}$$

$$\frac{0,1}{0,11} - \frac{1,1}{0,1} + \frac{1,1}{11} = \frac{110}{11} - \frac{11}{1} + \frac{11}{110}$$

$$= 10 - \frac{10}{9} \cdot \frac{9}{1} + \frac{1}{10} = 10 - 10 + \frac{1}{10} = \frac{1}{10}$$

Cevap: A

$$10. \frac{-4 + 3 + 2}{4 \cdot (-3)} = \frac{1}{-12} = \frac{-1}{12}$$

Cevap: C

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$$11. \frac{\frac{2}{3}}{5} - \frac{2}{\frac{3}{5}} = \frac{2}{3} \cdot \frac{1}{5} - 2 \cdot \frac{5}{3}$$

$$= \frac{2}{15} - \frac{10}{3} = \frac{2-50}{15} = \frac{-48}{15} = -\frac{16}{5}$$

Cevap: A

$$12. \left(\frac{3}{4} + \frac{1}{2}\right) : \left(\frac{3}{4} - \frac{1}{2}\right)$$

$$= \frac{5}{4} : \frac{1}{4} = \frac{5}{4} \cdot \frac{4}{1} = 5$$

Cevap: B

$$13. \frac{1}{2} \cdot \frac{2}{3} \cdot \frac{3}{4} \dots \frac{16}{17} = \frac{1}{17}$$

Cevap: D

14. Tam kısımları toplayalım:

$$1 + 2 + 3 + \dots + 20 = \frac{20 \cdot 21}{2} = 210$$

Kesirli kısımları toplayalım:

$$\frac{1}{2} + \frac{2}{2} + \frac{3}{2} + \dots + \frac{20}{2} =$$

$$= \frac{1 + 2 + 3 + \dots + 20}{2} = \frac{20 \cdot 21}{2} = 105$$

$$\Rightarrow 210 + 105 = 315$$

$$15. 5 - \frac{3}{\frac{2}{2}} = 5 - 2 \cdot 3$$

$$= 5 - 6$$

$$= -1$$

Cevap: B

Cevap: B

$$16. \left(\frac{3}{5} - \frac{3}{5} \cdot \frac{10}{9}\right) - \left(\frac{4}{7} - \frac{4}{7} \cdot \frac{14}{6}\right)$$

$$= \left(\frac{3}{5} - \frac{2}{3}\right) - \left(\frac{4}{7} - \frac{4}{3}\right)$$

$$= \left(\frac{-1}{15}\right) - \left(\frac{-16}{21}\right) = \frac{-1}{15} + \frac{16}{21}$$

$$= \frac{-7 + 80}{105} = \frac{73}{105}$$

Cevap: A

$$17. \left(2 - 2 \cdot \frac{1}{3}\right) : \frac{\frac{1}{2} - \frac{5}{4}}{\frac{3}{4} + \frac{5}{5}} = \left(-\frac{1}{3}\right) : \frac{-\frac{3}{4}}{\frac{8}{20}}$$

$$\left(-\frac{1}{3}\right) : \frac{-\frac{3}{4}}{\frac{2}{5}} = \left(-\frac{1}{3}\right) : \left(-\frac{5}{8}\right) = \frac{-1}{3} \cdot \frac{8}{5} = \frac{8}{15}$$

Cevap: B

$$18. \frac{\frac{2}{3}}{4} - \frac{2}{\frac{3}{4}} = \frac{1}{3} \cdot \frac{1}{4} - 2 \cdot \frac{4}{3}$$

$$= \frac{1}{12} - \frac{8}{3} = \frac{1-32}{12} = \frac{-31}{12}$$

Cevap: A

$$19. \left(\frac{3}{4} + \frac{1}{2}\right) : \left(\frac{1}{2} - \frac{3}{4}\right) =$$

$$= \frac{5}{4} : \left(\frac{-1}{4}\right) = \frac{5}{4} \cdot \frac{4}{-1} = -5$$

Cevap: B

$$20. \frac{\frac{1}{2} - 3 + \frac{1}{2} - 1}{4 - \frac{1}{4} + 1 - \frac{3}{4}} = \frac{-3}{4}$$

Cevap: A

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