06. બીજગણિતની ભૂમિકા અને સાદુરૂપ

☐ **સાદુરૂપ**

કોઈ જટીલ અપૂર્ણાંક અથવા વ્યંજકને એક સાધારણ અપૂર્ણાંક અથવા પૂર્ણાંક સંખ્યામાં બદલવાની ક્રિયા એટલે સાદુરૂપ.

■ **રીત નં. 1 :**

સાદુરૂપને સમજવા માટે નીચેની બાબતોને ધ્યાનમાં લઈશું.

ક્રમ	સંક્ષિપ્ત અક્ષર	અર્થ	ચિન્હ
1	V	લીટી કૌંસ (Vinculum)	—
2	Ci	નાનો કૌંસ (Circular Boa)	( )
3	Cu	છગડીયો કૌંસ (Curly Bracket)	{ }
4	Sq	મોટો કૌંસ (Square Bracket)	[ ]

નોંધ: આપેલ કૌંસનો ક્રમ નિશ્ચિત હોય છે અને આ ક્રમ પ્રમાણે સાદુરૂપ આપવામાં આવે છે.
યાદ રાખવા માટે 'Vicicusq (વિસિકસક)' ધ્યાનમાં રાખવું. (ગુજરાતીમાં લીનાછમો તરીકે યાદ રાખવું)

ઉદા.: (i) $3-[4-\{6-(5-\overline{4-3})\}]$ નું સાદુરૂપ આપો.

$=3-[4-\{6-(5-1)\}]$

$=3-[4-\{6-4\}]$

$=3-[4-2]$

$=3-2$

$=\boxed{1}$

(ii) $18-[5-\{6+2(7-\overline{8-5})\}]$

$=18-[5-\{6+2(7-3)\}]$

$=18-[5-\{6+2(4)\}]$

$=18-[5-\{6+8\}]$

$=18-[5-14]$

$=18-[-9]$

$=18+9$

$=\boxed{27}$

(iii) $25-5\,[2+3\{2-2(5-3)+5\}-10]$

$=25-5[2+3\{2-2(2)+5\}-10]$

$=25-5[2+3\{2-4+5\}-10]$

$=25-5[2+3\{3\}-10]$

$=25-5[2+9-10]$

$=25-5[1]$

$=25-5$

$=\boxed{20}$

■ **રીત નં. 2 :**

ક્રમ	સંક્ષિપ્ત અક્ષર	અર્થ	ચિન્હ
1	V	રેખા કોષ્ટક (Vinculum)	—
2	B	કોષ્ટક (Brackets)	( ), { }, [ ]
3	O	ના, નો, ની (of)	
4	D	ભાગાકાર (Division)	÷
5	M	ગુણાકાર (Multiplication)	×
6	A	સરવાળો (Addition)	+
7	S	બાદબાકી (Subtraction)	—

નોંધ: આપેલ કોષ્ટકનો ક્રમ નિશ્ચિત હોય છે અને આ ક્રમ પ્રમાણે સાદુરૂપ આપવામાં આવે છે.
યાદ રાખવા માટે : 'VBODMAS' અથવા ગુજરાતીમાં 'ભાગુસબા'નો નિયમ પણ યાદ રખાય છે.
(ના, નો, ની) નો અર્થ ગુણાકાર કરવો થાય છે.

ઉદા.: (i) $108\div36\times\frac{1}{4}+\frac{2}{5}\times3\frac{1}{4}$

$=\frac{108}{36}\times\frac{1}{4}+\frac{2}{5}\times\frac{13}{4}$

$=\frac{3}{4}+\frac{13}{10}=\frac{(5\times3)+(13\times2)}{20}$

$=\frac{15+26}{20}=\frac{41}{20}=\boxed{2\frac{1}{20}}$

(ii) $100+50\times20$

$=100+1000$

$=1100$

(iii) $100\times10-100+2000\div100$

$=100\times10-100+20$

$=1000-100+20$

$=1020-100$

$=920$

(iv) $100-50\times4\div2$

$=100-50\times2$

$=100-100\quad=0$

(v) $0.6\times0.6+0.6\div0.6-0.6$

$=0.6\times0.6+1-0.6$

$=0.36+1-0.6$

$=1.36-0.6$

$=0.76$

પ્રેક્ટીસના દાખલાઓ :

01. $5005-5000\div10=$ ______

$=5005-500$

$=\boxed{4505}$

02. $4\frac{1}{2}+3\frac{1}{6}+(?)+\frac{7}{3}=\frac{67}{5}$ *હોય તો (?) ની કિંમત શોધો.*

$\frac{9}{2}+\frac{19}{6}+(?)+\frac{7}{3}=\frac{67}{5}$

$\therefore\frac{27+19+14}{6}+(?)=\frac{67}{5}$

$\therefore\frac{60}{6}+(?)=\frac{67}{5}$

$\therefore(?)=\frac{67}{5}-\frac{60}{6}=\frac{67}{5}-10$

$=\frac{67-50}{5}$

$=\frac{17}{5}$

$=\boxed{3\frac{2}{5}}$

03. *સાદુરૂપ આપો.*

$\left[3\frac{1}{4}\div\left\{1\frac{1}{4}-\frac{1}{2}\left(2\frac{1}{2}-\frac{1}{4}-\frac{1}{6}\right)\right\}\right]$

$=\left[\frac{13}{4}\div\left\{\frac{5}{4}-\frac{1}{2}\left(\frac{5}{2}-\frac{1}{4}-\frac{1}{6}\right)\right\}\right]$

$=\left[\frac{13}{4}\div\left\{\frac{5}{4}-\frac{1}{2}\left(\frac{30-3-2}{12}\right)\right\}\right]$

$=\left[\frac{13}{4}\div\left\{\frac{5}{4}-\frac{1}{2}\left(\frac{25}{12}\right)\right\}\right]$

$=\left[\frac{13}{4}\div\left\{\frac{5}{4}-\frac{25}{24}\right\}\right]$

$=\left[\frac{13}{4}\div\left\{\frac{30-25}{24}\right\}\right]$

$=\left[\frac{13}{4}\div\frac{5}{24}\right]$

$=\left[\frac{13}{4}\times\frac{24}{5}\right]=\frac{78}{5}=\boxed{15\frac{3}{5}}$

04. $108\div36\times\ \frac{1}{4}+\frac{2}{5}\times3\frac{1}{4}=(?)$

$=108\div36\times\frac{1}{4}+\frac{2}{5}\times\frac{13}{4}$

$=\frac{108}{36}\times\frac{1}{4}+\frac{2}{5}\times\frac{13}{4}$

$=\frac{3}{4}+\frac{13}{10}$

$=\frac{15+26}{20}=\frac{41}{20}$

$=\boxed{2\frac{1}{20}}$

05. *સાદુરૂપ આપો.*

$\dfrac{\frac{7}{2}\div\frac{5}{2}\times\frac{3}{2}}{\frac{7}{2}\div\frac{5}{2}\text{ નો }\frac{3}{2}}\div5.25$

$=\dfrac{\frac{7}{2}\times\frac{2}{5}\times\frac{3}{2}}{\frac{7}{2}\div\left(\frac{5}{2}\times\frac{3}{2}\right)}\div5.25$

$$=\frac{\frac{21}{10}}{\frac{7}{2}\times\frac{4}{15}}\times\frac{100}{525}$$

$$=\frac{21}{10}\times\frac{15}{14}\times\frac{100}{525}$$

$$=\boxed{\frac{3}{7}}$$

06. $12.05\times 5.4\div 0.6=(?)$

$$\frac{1205}{100}\times\frac{54}{10}\times\frac{10}{6}$$

$$=\frac{1205\times 9}{100}$$

$$=\frac{10845}{100}$$

$$=\boxed{108.45}$$

07. $0.6\times 0.6+0.6\div 0.6=(?)$

$$=0.36+1=\boxed{1.36}$$

08. $\frac{17.28\div x}{3.6\times 0.2}=2$ તો $x=(?)$

$$\therefore\ \frac{17.28\div x}{0.72}=2$$

$$\therefore\ \frac{17.28}{x}=1.44$$

$$\therefore\ x=\frac{17.28}{1.44}=\frac{1728}{144}$$

$$\therefore\ x=12$$

09. $36.48+364.824-36.4824=(?)$

$$=36.480+364.824-36.4824$$

$$=401.3040-36.4824$$

$$=\boxed{364.8216}$$

10. $\dfrac{2x}{1+\dfrac{1}{1+\dfrac{x}{1-x}}}=1$ તો $x=(?)$

$$\therefore\ \frac{2x}{1+\dfrac{1}{\dfrac{1-x+x}{1-x}}}=1$$

$$\therefore\ \frac{2x}{1+\dfrac{1}{\dfrac{1}{1-x}}}=1$$

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

$$\therefore\ \frac{2x}{2-x}=1$$

$$\therefore 2x=2-x$$

$$\therefore 3x=2$$

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

11. $\left(1-\frac{1}{3}\right)\times\left(1-\frac{1}{4}\right)\times\left(1-\frac{1}{5}\right)\times____\times\left(1-\frac{1}{100}\right)$

$$=\frac{2}{3}\times\frac{3}{4}\times\frac{4}{5}\times____\times\frac{99}{100}$$

$$=\frac{2}{100}=\boxed{\frac{1}{50}}$$

12. $99\frac{48}{49}\times 245$ નું સાદુરૂપ આપો.

$$=\frac{4899}{49}\times 245=\boxed{24495}$$

13. $100+50\times 2=______$

$$=100+100=\boxed{200}$$

14. $(3080+6160)\div 28=(?)$

$=9240\div 28=\boxed{330}$

15. $5004\div 139-6=$ _____

$=\frac{5004}{139}-6$

$=36-6=\boxed{30}$

16. $7500+1250\div 50=$ _____

$=7500+\frac{1250}{50}$

$=7500+25$

$=\boxed{7525}$

17. $8\div 88\times 8888088=(?)$

$=\frac{8}{88}\times 8888088$

$=\frac{1}{11}\times 8888088$

$=\boxed{808008}$

18. $1001\div 11$ ***ના 13 ગણા કેટલા થાય.***

$=1001\div(11\times 13)$

$=\frac{1001}{11\times 13}=\frac{91}{13}$

$=\boxed{7}$

19. $1260\div 15\div 7=(?)$

$\frac{1260}{15}\div 7$

$=84\div 7$

$=\boxed{12}$

20. $(-5)(4)(2)\left(-\frac{1}{2}\right)\left(\frac{3}{4}\right)=(?)$

$=(-5)(-1)(3)$

$=\boxed{15}$

21. $\frac{11}{4}=\frac{77}{(?)}$

$\therefore (?)=\frac{77\times 4}{11}$

$\boxed{?=28}$

22. $3640\div 14\times 16+340=$ _____

$=260\times 16+340$

$=4160+340$

$=\boxed{4500}$

23. $2-[2-\{2-2(2+2)\}]=(?)$

$=2-[2-\{2-8\}]$

$=2-[2-\{-6\}]$

$=2-[2+6]$

$=2-8$

$=\boxed{-6}$

24. $25-5[2+3\{2-2(5-3)+5\}-10]$ ***નું સાદુરૂપ આપો.***

$=25-5[2+3\{2-4+5\}-10]$

$=25-5[2+9-10]$

$=25-5\ [1]$

$=25-5$

$=20$

25. $100\times 10-100+200\div 100=$ _____

$=1000-100+2$

$=1002-100$

$=\boxed{902}$

26. $2(?)6-12\div 4+2=11$ ***માં*** $(?)$ ***નું મૂલ્ય શું ?***

$\therefore 2(?)6-12\div 4+2=11$

$\therefore 2(?)6-1=11$

$\therefore 2(?)6=11+1$

$\therefore 2(?)6=12$

$\therefore 2\times 6=12$

$\therefore ?=\times$

27. $45-[28-\{37-(15-*)\}]=58$ હોય તો $* = (?)$

$\therefore 45-[28-\{37-15+*\}]=58$

$\therefore 45-[28-22-*]=58$

$\therefore 45-6+*=58$

$\therefore *=58-39$

$\boxed{*=19}$

28. $\dfrac{(6+6+6+6)\div 6}{4+4+4+4\div 4}=$ ______

$=\dfrac{(24)\div 6}{12+1}$

$=\boxed{\dfrac{4}{13}}$

29. $\dfrac{4+4\times 18\div 6-8}{123\times 6-146\times 5}=$ ______

$=\dfrac{4+4\times 3-8}{738-730}$

$=\dfrac{4+12-8}{8}$

$=\dfrac{8}{8}=\boxed{1}$

30. $\dfrac{180\times 15-12\times 10}{140\times 8+2\times 55}$

$=\dfrac{2700-120}{1120+110}=\dfrac{2580}{1230}$

$=\boxed{2.09}$

31. $\dfrac{128\div 16\times (?)-7\times 2}{7^2-8\times 6+(?)^2}=1$

$\therefore \dfrac{8\times (?)-14}{49-48+(?)^2}=1$

$(?)=x$ લેતાં,

$\therefore \dfrac{8x-14}{1+x^2}=1$

$\therefore 8x-14=1+x^2$

$\therefore x^2-8x+15=0$

$\therefore x^2-5x-3x+15=0$

$\therefore (x-5)(x-3)=0$

$\boxed{x=3}$ $\boxed{x=5}$

32. સાદુરૂપ આપો.

$18-[5-\{6+2(7-\overline{8-5})\}]$

$=18-[5-\{6+2(7-3)\}]$

$=18-[5-\{6+2(4)\}]$

$=18-[5-\{6+8\}]$

$=18-[5-14]$

$=18-[-9]$

$=18+9 \qquad =\boxed{27}$

33. $1\div[1+1\div\{1+1\div(1+1\div 2)\}]$ નું મૂલ્ય શું હશે ?

$=1\div\left[1+1\div\left\{1+1\div\left(1+\dfrac{1}{2}\right)\right\}\right]$

$=1\div\left[1+1\div\left\{1+1\div\left(\dfrac{3}{2}\right)\right\}\right]$

$=1\div\left[1+1\div\left\{1+1\times\dfrac{2}{3}\right\}\right]$

$=1\div\left[1+1\div\left\{1+\dfrac{2}{3}\right\}\right]$

$=1\div\left[1+1\div\dfrac{5}{3}\right]$

$=1\div\left[1+1\times\dfrac{3}{5}\right]$

$=1\div\left[1+\dfrac{3}{5}\right]$

$=1\div\dfrac{8}{5}$

$=1\times\dfrac{5}{8} \qquad =\boxed{\dfrac{5}{8}}$

34. $\dfrac{8-[5-(-3+2)]\div 2}{[5-3]-[5-8]\div 3}$ નું સાદુરૂપ આપો.

$=\dfrac{8-[5-(-1)]\div 2}{[2]-[-3]\div 3}$

$=\dfrac{8-6\div 2}{2+1}$

$=\dfrac{8-3}{3}$

$=\boxed{\dfrac{5}{3}}$

35. $1+\dfrac{1}{2}+\dfrac{1}{4}+\dfrac{1}{7}+\dfrac{1}{14}+\dfrac{1}{28}=(?)$

$=\dfrac{28+14+7+4+2+1}{28}$

$=\dfrac{56}{28}=\boxed{2}$

36. $1\dfrac{3}{4}+5\dfrac{1}{3}+3\dfrac{2}{5}=(?)$

$=\dfrac{7}{4}+\dfrac{16}{3}+\dfrac{17}{5}$

$=\dfrac{105+320+204}{60}$

$=\dfrac{629}{60}$

$=\boxed{10.48}$

37. $20\dfrac{1}{2}+30\dfrac{1}{3}-15\dfrac{1}{6}=(?)$

$=\dfrac{41}{2}+\dfrac{91}{3}-\dfrac{91}{6}$

$=\dfrac{123+182}{6}-\dfrac{91}{6}$

$=\dfrac{305}{6}-\dfrac{91}{6}$

$=\dfrac{305-91}{6}$

$=\dfrac{214}{6}=\boxed{35.66}$

38. $\dfrac{1}{2\frac{1}{3}}+\dfrac{1}{1\frac{3}{4}}=(?)$

$=\dfrac{1}{7/3}+\dfrac{1}{7/4}\quad=\dfrac{3}{7}+\dfrac{4}{7}$

$=\dfrac{7}{7}=\boxed{1}$

39. $5\dfrac{5}{6}-3\dfrac{8}{9}-(?)=1$

$\therefore \dfrac{35}{6}-\dfrac{35}{9}-(?)=1$

$\therefore \dfrac{105-70}{18}-(?)=1$

$\therefore \dfrac{35}{18}-(?)=1$

$\therefore \dfrac{35}{18}-1=(?)$

$\therefore \dfrac{35-18}{18}=(?) \qquad \therefore \boxed{x=\dfrac{17}{18}}$

40. $\dfrac{-\frac{1}{2}-\frac{2}{3}+\frac{4}{5}-\frac{1}{3}+\frac{1}{5}+\frac{3}{4}}{\frac{1}{2}+\frac{2}{3}-\frac{3}{4}+\frac{1}{3}-\frac{1}{5}-\frac{4}{5}}$

$=\dfrac{\frac{-30-40+48-20+12+45}{60}}{\frac{30+40-45+20-12-48}{60}}=\dfrac{15}{-15}=\boxed{-1}$

41. $5-\left[\dfrac{3}{4}+\left\{2\dfrac{1}{2}-\left(0.5+\dfrac{1}{6}-\dfrac{1}{7}\right)\right\}\right]$

$$=5-\left[\frac{3}{4}+\left\{\frac{5}{2}-\left(\frac{4}{6}-\frac{1}{7}\right)\right\}\right]$$

$$=5-\left[\frac{3}{4}+\left\{\frac{5}{2}-\left(\frac{14-3}{21}\right)\right\}\right]$$

$$=5-\left[\frac{3}{4}+\left\{\frac{5}{2}-\frac{11}{21}\right\}\right]$$

$$=5-\left[\frac{3}{4}+\left\{\frac{105-22}{42}\right\}\right]$$

$$=5-\left[\frac{3}{4}+\frac{83}{42}\right]$$

$$=5-\left[\frac{63+166}{84}\right]$$

$$=5-\left[\frac{229}{84}\right]$$

$$=\frac{420-229}{84}=\frac{191}{84}=\boxed{2.27}$$

42. $6\frac{5}{6}\times5\frac{1}{3}+17\frac{2}{3}\times4\frac{1}{2}=(?)$

$$=\frac{41}{6}\times\frac{16}{3}+\frac{53}{3}\times\frac{9}{2}$$

$$=\frac{328}{9}+\frac{159}{2}$$

$$=\frac{656+1431}{18}$$

$$=\frac{2087}{18}=\boxed{115.94}$$

43. $\frac{1}{3}+\frac{1}{2}+\frac{1}{x}=1$ તો $x=?$

$$=\frac{2+3}{6}+\frac{1}{x}=1$$

$$\therefore\frac{5}{6}+\frac{1}{x}=1$$

$$\therefore\frac{5x+6}{6x}=1$$

$$\therefore 5x+6=6x$$

$$\therefore 6=x$$

$$\boxed{x=6}$$

44. $\frac{3}{5}$ ના $\frac{4}{7}$ ના $\frac{5}{9}$ ના $\frac{21}{24}$ ના $504=(?)$

$$=\frac{3}{5}\times\frac{4}{7}\times\frac{5}{9}\times\frac{21}{24}\times504$$

$$=\frac{504}{6}$$

$$=\boxed{84}$$

45. $\left[\frac{1}{2}-\frac{1}{4}+\frac{1}{5}-\frac{1}{6}\right]$ ને $\left[\frac{2}{5}-\frac{5}{9}+\frac{3}{5}-\frac{7}{18}\right]$ વડે ગુણતા_______ મળે.

$$=\left[\frac{30-15+12-10}{60}\right]\times\left[\frac{36-50+54-35}{90}\right]$$

$$=\left[\frac{17}{60}\times\frac{5}{90}\right]=\boxed{\frac{17}{1080}}$$

46. $\frac{3}{8}$ ના $168\times15\div5+(?)=549\div9+235$

$$\therefore\frac{3}{8}\times168\times3+(?)=549\div9+235$$

$$\therefore 189+(?)=61+235$$

$$\therefore (?)=296-189$$

$$\boxed{(?)=107}$$

47. $1\frac{2}{3}\div\frac{2}{7}\times\frac{*}{7}=1\frac{1}{4}\times\frac{2}{3}\div\frac{1}{6}$ માં $*$ નું મૂલ્ય શોધો.

$$\therefore\frac{5}{3}\times\frac{7}{2}\times\frac{*}{7}=\frac{5}{4}\times\frac{2}{3}\times\frac{6}{1}$$

$$\therefore\frac{5\times *}{6}=5\therefore\boxed{*=6}$$

48. $5\frac{2}{3} \div (?)\frac{5}{6} = 2$

$\therefore \frac{17}{3} \div \frac{(6\times ?+5)}{6} = 2$

$\frac{17}{3} \times \frac{6}{2} = 6\times ?+5$

$17 = 6\times ?+5$

$12 = 6\times ?$

$\frac{12}{6} = ?$ $\boxed{2 = ?}$

49. $\frac{1}{8}$ નો $37\frac{1}{2} =$ _____

$\therefore \frac{1}{8} \times 37\frac{1}{2}$

$\therefore \frac{1}{8} \times \frac{75}{2}$

$\therefore \frac{75}{16} = \boxed{4\frac{11}{16}}$

50. $\frac{3}{8}$ નો $\frac{1}{12}$ ભાગ બરાબર કેટલા થાય ?

$\frac{3}{8} \div \frac{1}{12}$

$= \frac{3}{8} \times 12$

$= \frac{9}{2}$ $= 4.5$

51. $\left[\frac{5}{7} \text{ના} 1\frac{6}{13}\right] \div \left[2\frac{5}{7} \div 3\frac{1}{4}\right] = (?)$

$= \left[\frac{5}{7} \times \frac{19}{13}\right] \div \left[\frac{19}{7} \times \frac{4}{13}\right]$

$= \left[\frac{5}{7} \times \frac{19}{13} \times \frac{7}{19} \times \frac{13}{4}\right]$

$= \boxed{\frac{5}{4}} = 1\frac{1}{4}$

52. $4\frac{1}{2} \times 4\frac{1}{3} - 8\frac{1}{2} \div 5\frac{2}{3} = (?)$

$= \frac{9}{2} \times \frac{13}{3} - \frac{17}{2} \times \frac{3}{17}$

$= \frac{39}{2} - \frac{3}{2}$

$= \frac{36}{2} = 18$

53. $5\frac{1}{3} - 3\frac{2}{3} \div 1\frac{1}{3} \div (?) + 3\frac{1}{5} \div 1\frac{1}{5} = 7$

$\therefore \frac{16}{3} - \frac{11}{3} \times \frac{3}{4} \times \frac{1}{x} + \frac{16}{5} \times \frac{5}{6} = 7$

$\therefore \frac{64x - 33 + 32x}{12x} = 7$

$\therefore 96x - 33 = 84x$

$\therefore 96x - 84x = 33$

$\therefore 12x = 33$

$x = \frac{33}{12} = 2\frac{9}{12} = \boxed{2\frac{3}{4}}$

54. $\frac{5}{6} \div \frac{6}{7} \times (?) - \frac{8}{9} \div 1\frac{3}{5} + \frac{3}{4} \times 3\frac{1}{3} = 2\frac{7}{9}$

$\therefore \frac{5}{6} \times \frac{7}{6} \times (?) - \frac{8}{9} \times \frac{5}{8} + \frac{3}{4} \times \frac{10}{3} = \frac{25}{9}$

$\therefore \frac{35}{36} \times (?) - \frac{5}{9} + \frac{5}{2} = \frac{25}{9}$

$\therefore \frac{35x}{36} - \frac{10+45}{18} = \frac{25}{9}$

$\therefore \frac{35x}{36} + \frac{35}{18} = \frac{25}{9}$ [-10+45=35]

$\therefore 35x + 70 = 100$ (સમીકરણને 36 વડે ગુણતાં)

$\therefore 35x = 30$

$\therefore x = \frac{30}{35} = \frac{6}{7}$

$\therefore \boxed{x = \frac{6}{7}}$

55. $52.416 \div 18.72 + 6.28 = ____$

$\therefore \frac{52416}{1000} \times \frac{100}{1872} + 6.28$

$\therefore 2.8 + 6.28$

$\therefore \boxed{9.08}$

56. $2\frac{3}{4} \div 2\frac{2}{3} \div 1\frac{1}{12} = (?)$

$= \frac{11}{4} \times \frac{3}{8} \times \frac{12}{13}$

$= \boxed{\frac{99}{104}}$

57. $\frac{3}{4} \div 2\frac{1}{4}$ ના $\frac{2}{3} - \frac{\frac{1}{2} - \frac{1}{3}}{\frac{1}{2} + \frac{1}{2}} \times 3\frac{1}{3} + \frac{5}{6} = (?)$

$= \frac{3}{4} \div \left(\frac{9}{4} \times \frac{2}{3}\right) - \frac{\frac{1}{6}}{1} \times \frac{10}{3} + \frac{5}{6}$

$= \frac{3}{4} \times \frac{2}{3} - \frac{10}{18} + \frac{5}{6}$

$= \frac{1}{2} - \frac{5}{9} + \frac{5}{6}$

$= \frac{9 - 10 + 15}{18}$

$= \frac{14}{18}$

$= \frac{7}{9}$

58. $\frac{\frac{1}{3} + \frac{3}{4}\left(\frac{2}{6} - \frac{1}{3}\right)}{1\frac{1}{3} \text{ ના } \frac{3}{4} - \frac{1}{4} \text{ ના } \frac{4}{5}}$ નું સાદુરૂપ આપો.

$= \frac{\frac{1}{3} + 0}{\frac{4}{3} \times \frac{3}{4} - \frac{1}{4} \times \frac{4}{5}}$

$= \frac{\frac{1}{3}}{1 - \frac{1}{5}}$

$= \frac{1 \times 5}{3(5-1)}$

$= \frac{5}{12}$

59. $3034 - (1002 \div 20.04) = (?)$

$= 3034 - \left(\frac{1002}{2004} \times 100\right)$

$= 3034 - 50$

$= \boxed{2984}$

60. $8\frac{2}{7}$ ના $1568 + 265.75 = (?) + 2455.60$

$\therefore \frac{58}{7} \times 1568 + 265.75 = (?) + 2455.60$

$\therefore 58 \times 224 + 265.75 = (?) + 2455.60$

$\therefore 12992 + 265.75 = (?) + 2455.60$

$\therefore 13257.75 = (?) + 2455.60$

$\therefore -(?) = 2455.60 - 13257.75$

$\therefore -(?) = -10802.15$

$\boxed{(?) = 10802.15}$

61. $5.8 \times 2.5 + 0.6 \times 6.75 + 139.25 = (?)$

$\therefore 14.50 + 4.050 + 139.25 = ?$

$\therefore 14.500 + 4.050 + 139.250 = ?$

$\therefore \boxed{157.8} = ?$

62. $0.008 \times 0.01 \times 0.0072 \div (0.12 \times 0.0004) = (?)$

$= 0.008 \times 0.01 \times 0.0072 \div 0.000048 = ?$

$= 0.00008 \times 150 \;= \boxed{0.012} = ?$

63. $2.375 \times 5.22 \div 0.87 - 1.425 \times 0.02 = (?)$

$= 2.375 \times 6 - 0.0285 = 14.25 - 0.0285$

$= \boxed{14.2215}$

64. $0.2+0.2-0.2\div0.2\times(0.2\times0.2)=(?)$

$?=0.4-1\times(0.04)=0.4-0.04=\boxed{0.36}$

65. $11.6+9.28\div0.464-0.2828\div0.07=(?)$

$\therefore 11.6+20-4.04=?\ \therefore 31.6-4.04=?$

$\therefore \boxed{27.56}=?$

વધારે પ્રેક્ટીસ માટેના દાખલાઓ :

1. $\frac{(5X-5)^2}{(1-X)^2}=m$ તો $m=$ ....

2. $\frac{5}{6}\div\frac{8}{9}\times\frac{3}{5}=$ ....

(અ) $\frac{5}{9}$ (બ) $\frac{7}{16}$

(ક) $\frac{9}{16}$ (ડ) $\frac{7}{9}$

3. $5\times$ .... $=9584\div4$

(અ) 497.2 (બ) 479.2

(ક) 11980 (ડ) 7667.2

4. $\frac{(2a-6)^3}{2\,(3-a)^3}=$ ....

(અ) $\frac{1}{2}$ (બ) $-\frac{1}{2}$

(ક) -4 (ડ) 4

5. $4^3\div2^4\times3=$ ....

(અ) 2 (બ) 4

(ક) 8 (ડ) 12

6. $\left[\frac{2}{3}-\frac{3}{2}\right]=$ ....

(અ) $\frac{5}{6}$ (બ) $\frac{-5}{6}$

(ક) $\frac{-6}{5}$ (ડ) $\frac{6}{5}$

7. $\frac{2x^2-6x}{x^2-9}=$ ....

(અ) $\frac{1}{x-3}$ (બ) $\frac{2x}{x+3}$

(ક) $\frac{2x}{x-3}$ (ડ) $\frac{1}{x-3}$

8. $150\times0\times5\times4+700$ નું માન છે ?

(અ) 0 (બ) 3700

(ક) 2300 (ડ) 700

9. $\frac{(2x-2)^3}{(1-x)^3}=n$ હોય તો $n=$ ....

(અ) 2 (બ) -2

(ક) 8 (ડ) -8

10. 9865 + ... + 3174 + 2257 = 19425 થાય.

(અ) 4047 (બ) 4136

(ક) 4129 (ડ) 4092

11. 666 ÷ (2.4 × ....) = 185

(અ) 1.5 (બ) 2.5

(ક) 0.5 (ડ) 5

12. $5\frac{1}{4}+6\frac{1}{2}+1\frac{3}{4}=?$

(અ) $11\frac{6}{4}$ (બ) $13\frac{1}{2}$

(ક) 13 (ડ) $13\frac{1}{2}$

13. $1440\div12=?$

(અ) 12 (બ) 120

(ક) 1200 (ડ) .12

14. $\frac{25}{?}=\frac{?}{16}$

(અ) 20 (બ) 24

(ક) 28 (ડ) $\frac{5}{4}$

15. 345 + 5123 + 89 + 267 = ?

(અ) 6824 (બ) 5824

(ક) 4824 (ડ) 7024

16. $\frac{7}{11}\times\frac{7}{5}\div\frac{7}{10}+\frac{3}{22}$ સાદુંરૂપ શું થશે ?

(અ) $1\frac{22}{9}$ (બ) $9\frac{1}{22}$

(ક) $22\frac{1}{9}$ (ડ) $1\frac{9}{22}$

17. 5.0999 માં કેટલા ઉમેરવાથી સરવાળા 6 મળે ?

(અ) 1.0001 (બ) 0.9001

(ક) 1 (ડ) 0.001

18. 8.97×0.093 નો જવાબ કઈ સંખ્યાની સૌથી નજીક છે ?
(અ) 0.9 (બ) 0.8
(ક) 8.0 (ડ) 9.0

19. 0.25 X 0.25ના સ્થાને શું આવશે ?
(અ) 6250 (બ) 0.625
(ક) 0.0625 (ડ) 6.25

20. 515.15 - 15.5 - 1.51 - 5.11 - 1.11 = ...
(અ) 419.91 (બ) 499.19
(ક) 491.92 (ડ) 411.19

21. $12^2 - 4^2$ ની કિંમત નીચેના પૈકી કઈ ?
(અ) 9 (બ) 128
(ક) 169 (ડ) 83

22. $5 \times (?) = 9584 - 4$ માં (?)ની જગ્યાએ શું આવે ?
(અ) 497.2 (બ) 1916
(ક) 7667.2 (ડ) 479.2

23. એક ઘરમાં 26 ઓરડા છે. દરેક ઓરડામાં 4 છોડ છે. દરેક છોડને 2 કપ પાણી પીવડાવવામાં આવે છે, તો દરરોજ કેટલા કપ પાણી જોઈએ ?
(અ) 205 કપ (બ) 207 કપ
(ક) 208 કપ (ડ) 206 કપ

24. $1 + 1 \times 1 \div 1 - 1 + 1 \times 1 = ?$
(અ) 1 (બ) 2
(ક) 3 (ડ) 4

25. એક ટેબલની કિંમત રૂ. 1460 અને ખુરશીની કિંમત રૂ. 850 છે તો 4 ટેબલ અને 6 ખુરશીની કિંમત શું થશે ?
(અ) 10,940 (બ) 10,540
(ક) 10,840 (ડ) 10,540

26. $2 \times 2 + 6 \times 6 + 8 \times 8 + 12 \times 12 = ?$
(અ) 238 (બ) 248
(ક) 245 (ડ) 250

27. કોઈ સંખ્યાને 105 વડે ભાગવાથી 99 બચે તો 21 વડે ભાગતા કેટલી શેષ વધશે ?
(અ) 15 (બ) 13
(ક) 12 (ડ) 14

28. $\left(\frac{1}{2}\right)^2 \div \left(\frac{1}{2}\right)^5 \times \left(\frac{1}{2}\right)^3$ નું સાદુરૂપ આપો.
(અ) $\frac{1}{2}$ (બ) 0
(ક) 1 (ડ) 2

29. P ની ટીમમાં Qની ટીમ કરતાં દોઢી સંખ્યા છે, પણ જો P ની ટીમમાં Qની ટીમમાંથી એક વિદ્યાર્થી લઈ લેવામાં આવે તો બે ગણા થઈ જાય છે, તો P અને Qની ટીમમાં કેટલી સંખ્યા હશે ?
(અ) 10,15 (બ) 6, 9
(ક) 4, 6 (ડ) 8, 12

30. 10 * 20 * 40 * 5
* ની જગ્યાએ ÷ × = + - માંથી ત્રણ સંજ્ઞાઓ યોગ્ય ક્રમમાં મૂકી સાચું સમીકરણ બનાવવા સંજ્ઞાઓને યોગ્ય ક્રમ શોધો.
(અ) ÷ = × (બ) × ÷ =
(ક) ÷ × = (ડ) × = ÷

31. 4 + 4 ÷ 4 - 4 = ...
(અ) અશક્ય (બ) શૂન્ય
(ક) -2 (ડ) 1

32. $2\frac{P}{3} \div \frac{5}{6} \times \frac{5}{2} = 8$ માં P ની કિંમત શોધો.
(અ) 8 (બ) 1
(ક) 2 (ડ) 5

33. જો + એટલે × હોય, × એટલે ÷ હોય, ÷ એટલે - હોય અને - એટલે + હોય તો, નીચેની શ્રેણીનો ઉત્તર શોધો.
$6 + 7 \times 3 - 8 \div 20 = ?$
(અ) 12 (બ) 6
(ક) 10 (ડ) 2

34. $\frac{0.005 \times 50 \times 0.2}{0.22 + 3 \times 0.01}$
(અ) 0.02 (બ) 0.75
(ક) 0.075 (ડ) 0.2

35. $880 \div 1.1 + 88$ ની કિંમત કેટલી થાય ?
(અ) 168 (બ) 96
(ક) 800 (ડ) 888

36. $\frac{12^2 - 4^2}{9^2 - 3^2}$ ની કિંમત કેટલી થાય ?
(અ) 9 (બ) $\frac{4}{3}$
(ક) $\frac{16}{9}$ (ડ) $\frac{8}{3}$

37. $\frac{\sqrt{3} - 1}{\sqrt{3} + 1}$ ની કિંમત કેટલી થાય ?
(અ) 0.258 (બ) 0.256
(ક) 0.238 (ડ) 0.268

38. જો કોઈ એક સંખ્યાના $\frac{1}{3}$ અને $\frac{1}{5}$ નો સરવાળો 64 છે, તો તે સંખ્યા કઈ હોઈ શકે ?

(અ) 60 (બ) 120

(ક) 90 (ડ) 50

39. $\left(7+\sqrt{7}\right)\left(7-\sqrt{7}\right)=$.............

(અ) 0 (બ) $2\sqrt{7}$

(ક) $7\sqrt{7}$ (ડ) 42

40. જો $F=\left(\frac{9}{5}\right)C+32$ અને $F=-274$, તો C ....

(અ) –338 (બ) –274

(ક) –170 (ડ) 170

41. $x=\sqrt{2}$ અને $y=\sqrt{8}$ તો $xy=$............

(અ) 2 (બ) 16

(ક) 4 (ડ) $\sqrt{2}$

42. $x=\sqrt{8}$ અને $y=\sqrt{2}$ હોય તો $xy=$........

(અ) $\sqrt{2}$ (બ) $\sqrt{4}$

(ક) 4 (ડ) 16

43. $2+5-3+10\times4\div2=$.........

(અ) 24 (બ) 28

(ક) 30 (ડ) 32

44. $(0.000044\div0.11)=?$

45. $0.07\times0.07+0.7\div7=?$

46. $46-1260\div28$ ની કિંમત શોધો.

47. $\dfrac{1}{3+\dfrac{2}{2+\dfrac{1}{2}}}$ ની કિંમત શું છે.

48. $\dfrac{\sqrt{x}}{\sqrt{169}}=\dfrac{54}{39}$

49. $\dfrac{36}{?}=\dfrac{?}{81}$

50. 1110 + 10001 = ?

51. $\left(5\frac{3}{4}+2\frac{6}{8}-4\frac{8}{9}\right)=?$

52. $5\frac{2}{7}+13\frac{4}{9}+\frac{17}{63}=\sqrt{x}$

53. $\dfrac{4\frac{1}{3}+3\frac{2}{3}}{4\frac{1}{3}-3\frac{2}{3}}\times\left(6\frac{1}{2}+3\frac{1}{4}\right)=?$

54. $\dfrac{x+2}{3}-\dfrac{1}{2}\left(x-\dfrac{2x+1}{3}\right)=\dfrac{11}{3}$ તો $x=?$

55. તે સૌથી નાની પૂર્ણ વર્ગ સંખ્યા જે 3, 4, 7, 10 અને 12 દ્વારા પૂર્ણ વિભાજીત થાય છે તે {44, 100, 17640, 8100, 62500}

56. $\sqrt{1+\dfrac{x}{169}}=\dfrac{14}{13}$ તો x ની કિંમત શું થાય છે ?

57. $848\div1.1=?$

58. $40\div0.80=?$

59. $100\div10-10=?$

60. $0.939\div9.39=?$

61. $\frac{1}{8}\times8=?$

62. $\dfrac{1111}{0.01}=?$

63. $\frac{2}{5}$ ના $3\frac{3}{8}$ ના $\frac{4}{9}=?$

64. $\dfrac{x}{16}=\dfrac{196}{x}$ હોય તો x ની કિંમત શોધો.

65. $\dfrac{2500}{0.5}=?$

66. નીચેના સમીકરણમાં સ્ટાર ચિન્હ (*) પર કયો અંક આવશે ?

12891 – 75*2 = 5359

67. (272^2-128^2) ની કિંમત શોધો.

68. $1.1\times0.1=?$

69. $[(251)^{98}+(27)^{29}-(106)^{100}+(705)^{35}-(16)^4+259]$ ન ા ા સાદારૂપમાં એકમનો અંક બતાવો.

70. $72\div8\div0.2=?$

71. $[1-2(1-2)^{-1}]^{-1}$ ની કિંમત થાય.

72.

73. 75 થી પૂર્ણતઃ વિભાજીત થનારી સંખ્યા 8485ની નજીકની સંખ્યા કઈ છે ?

74. $\sqrt{49\times 64}=?$

75. $11.44+31.66+4.40=?$

76. $\frac{4.359\times 4.359-1.641\times 1.641}{4.359-1.641}=?$

77. $163\times 87*\times 239$ ના ગુણનફળમાં એક સ્થાન 1 છે. તો * ના સ્થાન પર કઈ સંખ્યા હશે ?

78. $\frac{2222}{0.011}=?$

79. $0.1\times 0.01=?$

80. $\frac{2.2\times 5+6.6\times 5}{11\times 5}=?$

81. $\frac{0.2\times 0.05}{0.01\times 0.01}=?$

82. $\frac{1.404}{1000}=?$

83. $1+11+111+1111+11111=?$

84. 1111 ના $\frac{1}{1.01}=?$

85. $128\div\frac{3}{4}\times\frac{45}{16}=?$

86. $0.46\times 0.46=?$

87. $108\div 1080=?$

88. $5+55+555+5555+55555=?$

89. $\frac{1}{4}\times\frac{1}{8}\div\frac{1}{8}=?$

90. $143.11+245.46+341.60+44.04=?$

91. $\frac{3}{625}=?$

92. $99.99+666.66=?$

93. $\frac{1}{1200}=?$

94. $14\times 4.5-7.5\div 3.5=?$

95. $4\frac{2}{5}\times 3\frac{1}{3}-x=5$

96. $7995\div 123\div 5=?$

97. $62.18+169.35+3046.81$

98. $6\frac{1}{2}+5\frac{1}{4}\times 1\frac{3}{7}=?$

99. $413\times\frac{3}{7}+615\times\frac{2}{3}=?$

100. 200 ના $125^{\%}+350$ ના $36^{\%}=?$

101. $7986\div 165\times 7=?$

102. 768, 192, 48, 12, ? આગળના ક્રમમાં શું આવશે ?

103. $\frac{1}{x}+x=?$

104. 0.45ને સાધારણ અપૂર્ણાંકમાં બદલવાથી શું આવશે ?

105. $16-16\div 2=?$

જવાબો

(1) 25,

(2) $\frac{9}{16}$,

(3) 479.2,

(4) -4,

(5) 12,

(6) $\frac{+5}{6}$,

(7) $\frac{2x}{x+3}$,

(8) 700,

(9) - 8,

(10) 4129,

(11) 1.5,

(12) $13\frac{1}{2}$,

(13) 120,

(14) 20,

(15) 5824,

(16) $1\frac{9}{22}$,

(17) 0.9001,

(18) 0.8,

(19) 0.0625,

(20) 491.92

(21) 128

(22) 1916

(23) 208,

(24) 2,

(25) 10,940

(26) 248

(27) 15,

(28) 1,

(29) 6, 9,

(30) × ÷ =,

(31) 1

(32) 2,

(33) 2,

(34) 0.2,

(35) 888,

(36) $\frac{16}{9}$,

(37) 0.268,

(38) 120,

(39) 42,

(40) -170,

(41) 4,

(42) 4,

(43) 24

(44) 0.0004

(45) 0.1049

(46) 1

(47) $\frac{5}{19}$

(48) x = 324

(49) ? = 54

(50) 11111

(51) $3\frac{11}{18}$

(52) x = 361

(53) 117

(54) 17

(55) 17640

(56) 27

(57) 770.9

(58) 50

(59) 0

(60) 0.1

(61) 1

(62) 111100

(63) $\frac{3}{5}$

(64) x = 56

(65) 5000

(66) * = 3

(67) 57600

(68) 0.11

(69) 4

(70) 45

(72) $\frac{3}{4}$

(73) 8475

(74) 56

(75) 47.50

(76) 6

(77) 3

(78) 202000

(79) 0.001

(80) 0.8

(81) 0.001

(82) 0.001404

(83) 12345

(84) 1100

(85) 480

(86) 0.2116

(87) 0.1

(88) 61725

(89) $\frac{1}{4}$

(90) 774.21

(91) 0.0048

(92)766.65

(93) 0.000833

(94) 60.85

(95) $9\frac{2}{3}$

(96) 13

(97) 3278.34

(98) 14

(99) 587

(100) 376

(101) 338.8

(102) 8

(103) $\frac{1+x^2}{x}$

(104) $\frac{9}{20}$

(105) 8