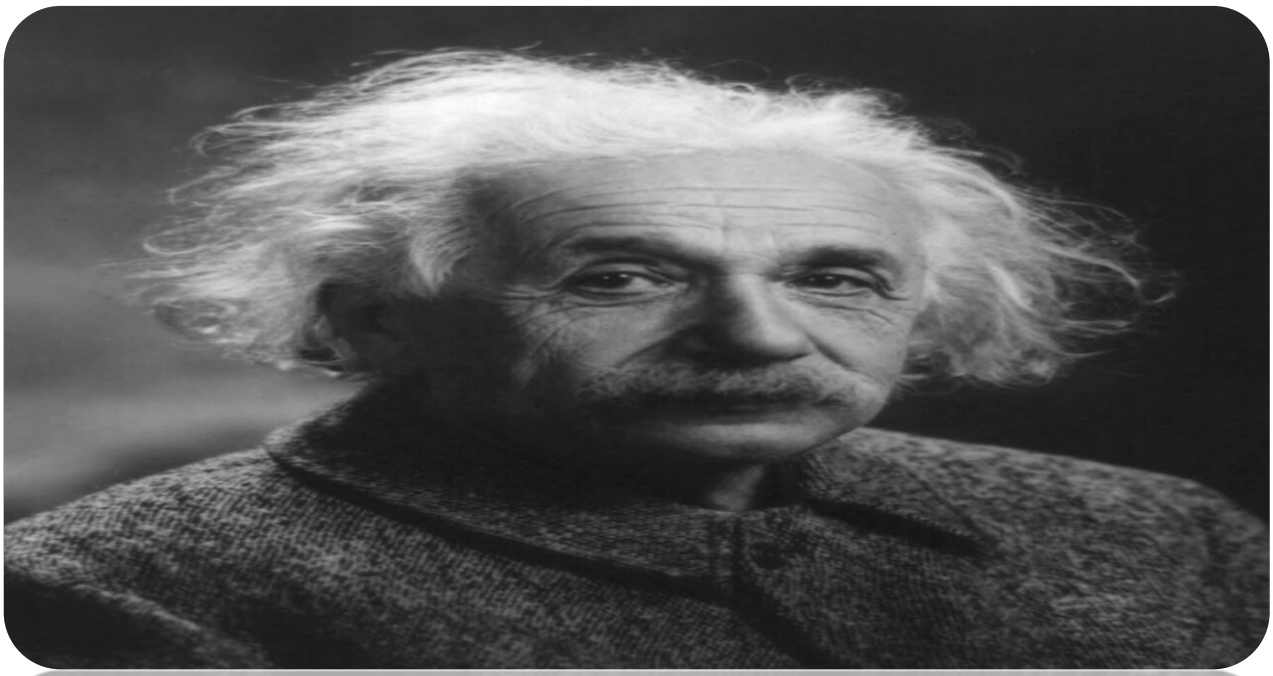
Centro de Formação Científica‘ALBERT EINSTEIN’

(CACUACO -VILA)

Fascículo de Matemática

Parte. 00



Ano lectivo '2011-2012'

Nome do Aluno:

Preparador:

Turno:

Nº de Telefone:

C.F.C.A.E

Cálculos Numéricos

1º) *Achar os números primos compreendidos entre* 1 à 201.

2º) *Decompôr os números de* 2 à 105.

3º) *Encotrar os divisores comuns dos seguintes números*:

a) 18, 36 *e* 108
b) 132 *e* 188
c) 72 *e* 612
d) 21 *e* 281
e) 810 *e* 624
f) 60 *e* 45
g) 142 *e* 536
h) 20 *e* 24
i) 120 *e* 96
j) 44, 56, 63 *e* 112
k) 24, 28, 84, 130, 40,60 *e* 150
l) 143, 78, 44, 221, 34 *e* 6

4º) *Determina por meio da decomposição em factores primos o m.d.c e o m.m.c dos seguintes números*:

a) 28, 119 *e* 63
b) 36, 72, 81 *e* 126
c) 35, 112 *e* 56
d) 24, 48, 16 *e* 128
e) 100, 125 *e* 180
f) 700, 750 *e* 875
g) 5083, 11339 *e* 1955
h) 225, 250 *e* 324
i) 350, 910 *e* 875
j) 4301, 13464 *e* 4625

5º) *Determina mentalmente o m.m.c dos seguintes números*:

a) 4 *e* 5
b) 4 *e* 6
c) 25 *e* 35
d) 18 *e* 48
e) 4,9 *e* 24
f) 60 *e* 80
g) 27 *e* 36
h) 7, 12 *e* 21
i) 6, 9, 12, 15, 16, 20 *e* 24
j) 23, 26, 76, *e* 81

6º) *Preenche o quadro*:

m.m.c	*24*	*105*	*180*
a	*6*	*15*	*90*
b			

m.m.c	*36*	*105*	*180*
a	*12*	*21*	*60*
b			

7º) *Quais os números compreendidos entre* 100 *e* 400 *que são ao mesmo tempo múltiplos de* 9, 12 *e* 15.

8º) *Determina respectivamente o menor número que* é *simultaneamente múltiplo de* :

a) 4 *e* 5
b) 9 *e* 15,
c) 12 *e* 18,
d) 5, 7 *e* 9

9º) $(+3)+(-4)+(-9)$
10º) $(-5)+(-5)+(-5)$
11º) $(-9)+(+4)+(-3)+(-8)$
12º) $(-7)+(-9)+(-17)+(+19)$
13º) $(-23)+(+27)+(-9)$
14º) $(-13)+(-19)+(-24)+(-23)+(+27)$
15º) $(-9)+(+18)+(-8)+(-3)$
16º) $(-10)+(-20)+(-24)+(+19)$
17º) $(-13)+(+19)+(-29)+(-39)$
18º) $(-18)+(+24)+(+18)+(-24)$
19º) $(-8)+(-3)+(-19)+(-73)+(-13)+(+26)$
20º) $(-11)+(+16)+(-98)+(-115)+(-917)+(71)+(-1235)$
21º) $(108)+(-107)+(-205)+(+10)$
22º) $(+111)+(+111)+(-333)+(+222)$
23º) $(-20)+(-5)+(-22)+(-11)+(+23)$
24º) $(+10)+(-10)+(-0)+(-5)+(-9)+(-0)+(-1)$
25º) $(-101)+(+10)+(+1)+(+3)+(+4)$
26º) $(+923)+(-921)+(+922)+(911)+(-5)$
27º) $(-922)+(-9)+(-96)+(+97)+(-56)+(+58)+(-78)$
28º) $(+922)+(+9)+(-96)+(97)$
29º) $(+11)+(-12)+(-5)+(-5)+(+10)$
30º) $(+11)+(-72)+(+83)+(-11)+(-32)$
31º) $(-925)+(+21)+(-71)+(-15)$
32º) $(-91)+(-97)+(+68)+(-24)$
33º) $(+923)+(-29)+(+39)+(-69)$
34º) $(+922099697)+(+925217115)$
35º) $(+4)+(-5)+(-6)+(+1)+(+79)+(-8)+(-9)$
36º) $(-12)+(-15)+(-16)+(-23)+(+18)$
37º) $(-3)+(+5)+(-5)+(+8)+(+1)+(-4)+(+10)$
38º) $(+20)+(-21)+(+22)+(-23)+(-5)+(+10)$
39º) $(+87)+(-29)+(+93)+(+13)+(0):(-18)$
40º) $(-7)+(+9)\cdot(-9)+(+17)\cdot 0+(-81)+(-42)$
41º) $-3-2+3-4+6$
42º) $-9+14-93-27+17$
43º) $-19-24-17-17-19$
44º) $-9+10-11-19-10+9-11$

45º) $-3-14+24-19-17+13$
46º) $3-4+17-24-29$
47º) $-2+1-7\cdot 4+18.6-7$
48º) $-8+91-17\cdot 17-18+18-18\cdot 9$
49º) $-13\cdot 96-135-154+568+146\cdot 65-582+-85\cdot 12$
50º) $-19+32-19-32-24$
51º) $31-37-41-9-1014-14-56+124$
52º) $14-14\times 4-4\times 3-3+9$
53º) $(-9)+(-17)+(+7)\cdot(-4)+(-142)\div(-71)$
54º) $(-17)+(-19)+(-8)\cdot(+3)+(+0)\div(-7)+(+7)\cdot(-3)$
55º) $(-9)\div(+3)+(-128)\div(+16)$
56º) $(-16)+(-19)\cdot(-1)+(+16)+(+1)\cdot(-1)+(+1)+(+4)\cdot(-4)$
57º) $(-99)\div(+11)+(-777)\div(+7)$
58º) $(+17)+(-19)+(-1)+(-28)+(+38)\cdot(-3)+(-9)\div(+3)$
59º) $(-13)\cdot(+4)+(-9)\cdot(+12)+(-21)\cdot(-7)+(-31)\cdot(-7)$
60º) $(-17)\cdot(0)+(-13)\cdot(+24)+(-14)\cdot(-7)+(-87)\cdot(-3)$
61º) $(+14)\cdot(+5)+(-17)\cdot(+17)+(-19)\cdot(+12)+(-9)\cdot(+13)$
62º) $(+34)\div(+17)+(-2010)+(+588)\div(-6)$
63º) $(-2012)\div(-2012)+(+545)\div(+5)$
64º) $(-7)\cdot(-3)+(-18)\cdot(+4)$
65º) $(+9)\cdot(-3)\cdot(-9)+(-81)\cdot(+9)$
66º) $(-7)\cdot(-7)\cdot(-2)\cdot(-95)\cdot(+45)\cdot(-18)\cdot(-9)$
67º) $(+15)+(-5)\cdot(-7)+(-35)\cdot(-1)$
68º) $(+28)+(+38)\cdot(-3)+(-2)\cdot(-1)$
69º) $(0)\div(-433)+(0)\div(+1333)$
70º) $(+142)\div(-71)+(-783)\div(+87)$
71º) $(+2010)\div(-10)+(+117)\div(-13)$
72º) $(-1734)\div(-2)+(-56)\div(+8)+(-512)\div(+8)$

✓ *Eliminação de Parenteses*

73º) $(-3)+(+4-1+5)-(+9)$

74º) $[+9+(-4+11)-(11-4)]+(-3+5)$

75º) $(+0)+\{-2+4-[+4-1+(-2+3)+11]+(+25)\}$

76º) $(+3)-\{3)-(+4-9)-3\cdot\left[-4+5\cdot(-2+3)—(4-1)\right]\cdot 2\}$

77º) $4-\{2+2[-4+2-(3-2+4)+(-2-1+3)+7]-7\}+2$

78º) $(+1-3)+[(-5)\div(-5)+(-3)\cdot 4]—3+1$

79º) $(-4)\cdot 10-10+(-3)\cdot\left[+7-1+(-8+9)—11+3\right)\cdot 3+2$

80º) $[+3-(+4+1-5)-5\cdot(1+1-5)\cdot 2]+(-5+10-11)$

81º) $(+3+8-7)—7+11+(-81)$

82º) $-13(7-3)+8(9-13)-13(3-7)+8(-9+13)$

83º) $-18+4\cdot(-9+8)+15\cdot(-8+3)$

84º) $+16-17\cdot(9-9)+16\cdot(129-128)$

85º) $-7\cdot(+3-14)+(14-13)\cdot 7$

86º) $(-34)+\{-18+(-29)-3\cdot[+4-61\cdot(48-49)]\}$

87º) $-3+[-2+17\cdot 3+18\cdot 5-16]-(8+7-3)$

88º) $-72\div(-3)+[-3+4\cdot(-5+3)+9]\cdot(-2)\cdot(-3)$

89º) $+8—4+\{+58\cdot 3-3+58\cdot(-3)+[-9+4(-3+1)]-5\}$

90º) $-5+4-\{3+4\cdot(+3-4)+5\cdot(-4+3)-1\}-3$

91º) $-16-13(2-1)-18+27\cdot 0-91\cdot 3$

92º) $-19+20-24-14-34\cdot(3+2)$

93º) $-16+17(7-7)+16+(8-2)\cdot 6$

94º) $-39\cdot(+13-15)-39\cdot(-15+13)$

95º) $(+3)—8+(-9)+(+10)+(-1)+(+3)$

96º) $(13-17)\cdot 17-17\cdot(13-17)$

97º) $18+9\cdot(9-10)+8-3(7-10)$

98º) $-17+(5-4)\cdot 9-4(5-6)+(-16)$

99º) $-(+3)+(+8)-(+5)+5\cdot[-5+3\cdot(+4-17)]$

100º) $-1(+9-3)+5(-3+9)+(-9+3)\cdot 5$

101º) $-15+15\cdot[-15+16(-78+77)]+(-16)$

102º) $(-14)+(+3+15)\cdot 5+(-11)\cdot(-89)$

103º) $-17+17\cdot(-3+6)+9\cdot(-9+3)$

104º) $\{(+3)\cdot(+3)+(+4)\cdot(+4)-[(+39)\div(-13)+(+4+12)]\}$

105º) $[-9+(+18)]\cdot(-3)+(-5)-[-(+205)+(-3)+(+5)]-2$

106º) $[-9+(+18)]\cdot(-3)+(-81)\div(-3)+(-10)\div(+2)$

107º) $\{-(+205)+(+3)+(+5)-[-(+205)+(-3)+(+5)]-2\}$

108º) $(-18)\div(+9)+\{(-303)\div(-3)+(+4+5-7)\cdot 2+(+3+1+5)\}$

109º) $\{(-1)+(-2)+(-3+4-5)+[+6+(-7+8)]\}+(-8)$

110º) $(-52)\div(-2)+(-56)\div(+2)+(-72)\div(+9)+(-81)\div(-27)$

111º) $[+4-1\cdot(+3+2-1)+2\cdot(-5+4-1)]+(+22)-(-111)$

112º) $\{-8+8\cdot(-9+10)+[-4+4\div(-2)]+(+92-101)\}$

113º) $(-210)\cdot 3+(+100)\cdot 3+(-50)\div(+10)$

114º) $\{(+16)\cdot(-2)+(+13)\cdot(+11)-14)\cdot 0+(+0)\cdot(+98)$

115º) $(-303)\div(-3)-9+(+18)5+16(-78+77)(13-17)\cdot 17-17$

✓ ***Dizimas***

116º) *Transformar as seguintes dizimas em fracção*:

a) $0{,}75$ *e* $0,\overline{75}$

b) $0,8181$

c) $0{,}3003003003$

d) $0{,}43$ *e* $0,\overline{43}$

e) $0{,}5252$

f) $0{,}002002002002$

g) $0{,}832$ *e* $0{,}43(239)$

h) $12,\overline{431}; 0,\overline{194}$ *e* $11{,}89\overline{53}$

i) $0{,}2\overline{305}; 45{,}23(028); 23{,}567$

117º) *Resolver os seguintes exercícios*:

a) $15{,}72 - 3 + 0{,}82 - 11{,}97$

b) $357{,}45 + 37 - 35{,}74 - 21{,}8$

c) $91{,}724 - 2{,}587 + 1{,}723 - 91{,}724$

d) $200 - 0{,}45 - 0{,}045 - 45 - 4{,}5$

e) $0{,}43 + 0{,}534 - 0{,}832 - 43{,}239 + 23{,}567$

f) $17{,}03 - 5{,}87 - 11 + 0{,}24$

g) $583{,}7 - 11 - 235{,}42 - 350{,}71$

h) $100 - 0{,}025 - 0{,}25 - 2{,}5 - 25$

i) $63{,}004 + 23{,}97 + 18{,}4 - 15{,}03$

j) $456{,}25 + 235{,}840 - 214{,}54 - 46{,}23 - 245{,}25$

k) $132{,}7 + 18{,}54 + 11{,}41 + 125{,}8$

l) $154{,}1 - 15{,}4 - 1{,}5 - 1{,}0$

m) $0{,}05824 - 0{,}00528 - 0{,}04516$

n) $114{,}73 + 97{,}27 + 101{,}01 + 20{,}02$

o) $98{,}7 - 9{,}87 - 0{,}98{,}0{,}09$

p) $(-2{,}85) + (+97) + (+41{,}37) + (-13{,}96) + (+17{,}69) + (-0{,}11)$

q) $(+12{,}28) + (-8{,}75) + (+101{,}50) + (-0{,}25) + (+0{,}25)$

r) $(+3{,}3) + (-12{,}8) + (-31{,}6) + (+59{,}8) + (-8{,}7) + (-5{,}54)$

s) $(+473{,}63) - (+208{,}17) - (-89{,}41) - (-17{,}09) + (+473{,}65)$

t) $(+25{,}15) + (-22{,}30) + (-12{,}15) - (+1{,}25) + (+215{,}099)$

u) $0{,}3 + 0{,}77 + 1{,}82$

v) $0{,}7 + 0{,}33 + 1{,}98$

w) $0{,}7 + 0{,}98 + 11{,}2 + 7{,}23$

x) $0{,}93 + 9{,}712 + 4{,}3 + 0{,}2 + 0{,}1$
y) $12{,}19 + 11{,}2 + 0{,}002 + 0{,}77 + 11{,}01$
z) $0{,}041 + 13{,}82 + 0{,}55 + 7{,}22$
aa) $0{,}17 + 0{,}00017 + 0{,}017 + 0{,}0017 + 1{,}7$
bb) $0{,}021 + 0{,}0021 + 0{,}21 + 0{,}00021$
cc) $18{,}28 + 19{,}72 + 0{,}43 + 5{,}55 + 10{,}02$
dd) $2{,}88 - 0{,}33 - 1{,}47$
ee) $0{,}044 - 0{,}013 - 0{,}009 - 0{,}18$
ff) $23{,}8 - 20{,}9 - 2{,}09 - 0{,}209$
gg) $2{,}074 - 1{,}382 - 0{,}377 - 0{,}208$
hh) $15{,}008 - 7{,}403 - 0{,}0201 - 3{,}004$
ii) $0{,}08208 - 0{,}00987 - 0{,}07102$
jj) $2700{,}4 - 328{,}9 - 1999{,}8 - 32{,}07$
kk) $3{,}07 - 0{,}98 - 2{,}07$
ll) $0{,}0098 - 0{,}0002 - 0{,}0076 - 0{,}001$
mm) $33{,}4 - 28{,}7 - 2{,}87 - 0{,}287$
nn) $1{,}021 - 0{,}8074 - 0{,}0928 - 0{,}1$
oo) $11{,}003 - 2{,}807 - 5{,}041 - 3{,}027$
pp) $2500{,}8 - 1328{,}7 - 13{,}5 - 1111{,}1$

118º) *Calcular a média aritmética dos seguintes números decimais*:
a) 0,24; 0,24; 0,35; 0,53
b) 0,0100; 0,1000; 0,0010; 0,0001
c) 42,7; 42,6; 24,7; 42,8
d) 1,071; 1,068; 1,070; 1,068; 1,068
e) 0,82; 0,28; 0,31; 0,13
f) 0,2500; 0,0250; 0,0025; 0,00025
g) 18,7; 18,8; 18,6; 18,7; 18,7
h) 2,408; 2,410; 2,409; 2,408; 2,410

119º) *Calcular por escrito e arredonda convenientemente o resultado obtido*:
a) $15{,}2 \times 14{,}8 \times 5{,}3$
b) $4{,}02 \times 5.4 \times 6$
c) $4{,}02 \times 5{,}40 \times 6{,}00$
d) $3{,}217 \times 2{,}028 \times 5{,}304$
e) $12{,}8 \times 13{,}2 \times 4{,}7$
f) $5{,}03 \times 4{,}4 \times 8$
g) $5{,}03 \times 4{,}40 \times 8{,}00$

h) $8{,}042 \times 4{,}021 \times 2{,}010$
i) $(3{,}288 \div 4{,}11) \div 2{,}00$
j) $3{,}288 \div (4{,}11 \div 2{,}00)$
k) $(24{,}3 \div 8{,}1) \div 3{,}0$
l) $24{,}3 \div (8{,}1 \div 3{,}0)$
m) $(2{,}877 \div 4{,}11) \div 3{,}50$
n) $2{,}877 \div (4{,}11 \div 3{,}50)$
o) $(36{,}0 \div 7{,}45) \div 5{,}4$
p) $36{,}0 \div (7{,}45 \div 5{,}4)$

120º) *Resolve os seguintes números decimais*:

a) $5{,}28 \times 3{,}17 - 11{,}28$
b) $5{,}28 \times (3{,}17 - 11{,}28)$
c) $5{,}28 \times (3{,}17 + 1{,}28)$
d) $6{,}37 \times 2{,}74 - 12{,}43$
e) $6{,}37 \times (2{,}74 - 12{,}43)$
f) $6{,}37 \times (2{,}74 + 2{,}43)$
g) $3{,}28 \times 4{,}21 + 17{,}21 \times 2{,}08$
h) $3{,}28 \times (4{,}21 + 17{,}21) \times 2{,}08$
i) $5{,}34 \times 2{,}07 + 11{,}03 \times 4{,}2$
j) $5{,}34 \times (2{,}07 + 11{,}03) \times 4{,}2$

Fracções

1º) Simplificar as seguintes fracções tornando – as irredutíveis:

k) $\frac{15}{25}$

l) $\frac{1000}{300}$

m) $\frac{123}{321}$

n) $\frac{64}{56}$

o) $\frac{7}{15}$

p) $\frac{87}{111}$

q) $\frac{12}{16}$

r) $\frac{70}{35}$

s) $\frac{513}{864}$

t) $\frac{11}{36}$

u) $\frac{130}{65}$

v) $\frac{105}{75}$

w) $\frac{5\times370}{37\times50}$

x) $\frac{17\times3\times9}{6\times51\times15}$

y) $\frac{504}{405}$

z) $\frac{7\times80}{8\times70}$

aa) $\frac{18\times8\times37}{185\times72}$

2º) Modifica as fracções de modo que a obteres com fracções com o mesmo denomnador:

a) $\frac{3}{5}e\frac{3}{4}$

b) $\frac{8}{11}e\frac{55}{77}$

c) $\frac{2}{3}e\frac{6}{7}$

d) $\frac{2}{9}e\frac{8}{36}$

e) $\frac{7}{16}e\frac{3}{64}$

f) $\frac{5}{12}e\frac{3}{8}$

g) $\frac{15}{36}e\frac{11}{24}$

h) $\frac{1}{7}e\frac{7}{1}$

i) $\frac{13}{15}e\frac{7}{10}$

j) $\frac{8}{20}e\frac{2}{15}$

k) $\frac{5}{18}e\frac{8}{27}$

l) $\frac{7}{120}e\frac{1}{12}$

m) $\frac{11}{12}e\frac{12}{13}$

n) $\frac{0}{5}e\frac{3}{35}$

o) $\frac{3}{24}e\frac{2}{16}$

p) $\frac{3}{4}e\frac{4}{3}$

q) $\frac{14}{15}e\frac{15}{14}$

r) $\frac{2}{3},\frac{3}{4}e\frac{4}{5}$

s) $\frac{1}{2},\frac{2}{3}e\frac{3}{4}$

t) $\frac{1}{5},\frac{3}{15},\frac{7}{35}e\frac{10}{50}$

u) $\frac{3}{10},\frac{4}{100},\frac{5}{1000}e\frac{6}{10000}$

v) $\frac{7}{15},\frac{11}{60},\frac{13}{45}e\frac{9}{50}$

w) $\frac{2}{7},\frac{1}{5},\frac{7}{20},\frac{6}{35}e\frac{1}{14}$

x) $\frac{5}{12},\frac{7}{36},\frac{5}{48}e\frac{17}{120}$

y) $\frac{27}{26},\frac{11}{65},\frac{5}{52},\frac{17}{130}e\frac{5}{13}$

z) $\frac{5}{35},\frac{9}{66},\frac{12}{110},\frac{15}{99}e\frac{1}{55}$

aa) $\frac{3}{45},\frac{17}{18},\frac{21}{72},\frac{100}{180}e\frac{7}{36}$

3º) Reduz as as seguintes fracções a dizimas:

a) $\frac{3}{8}$
b) $\frac{113}{40}$
c) $\frac{2}{9}$
d) $\frac{17}{55}$
e) $\frac{5}{12}$
f) $\frac{27}{20}$
g) $\frac{1}{3}$
h) $\frac{11}{6}$
i) $\frac{12}{11}$
j) $\frac{171}{20}$
k) $\frac{57}{10}$
l) $\frac{14}{5}$
m) $\frac{3}{10}$
n) $\frac{3}{100}$
o) $\frac{7}{1000}$
p) $\frac{7}{10}$
q) $\frac{2}{1000000}$
r) $\frac{5}{2}$
s) $\frac{3}{5}$
t) $\frac{12}{8}$
u) $\frac{2}{5}$
v) $\frac{11}{25}$
w) $\frac{32}{50}$
x) $\frac{7}{40}$
y) $\frac{21}{20}$
z) $\frac{9}{40}$
aa) $\frac{3}{20}$
bb) $\frac{17}{200}$

4º) *Calcular e em seguida simplifica o resultado a fim de obteres fracções irredutiveis*:

i. $\frac{1}{2}+\frac{1}{4}$
ii. $\frac{4}{5}+\frac{1}{10}$
iii. $\frac{1}{6}+\frac{5}{18}$
iv. $\frac{3}{4}+\frac{1}{8}$
v. $\frac{1}{4}+\frac{7}{10}$
vi. $\frac{1}{3}+\frac{1}{4}$
vii. $\frac{5}{12}+\frac{5}{8}$
viii. $\frac{3}{7}+\frac{1}{3}$
ix. $\frac{1}{5}+\frac{1}{10}$
x. $\frac{5}{6}+\frac{6}{21}$
xi. $\frac{4}{7}+\frac{1}{4}$
xii. $\frac{3}{3}+\frac{7}{16}$
xiii. $\frac{1}{4}+\frac{5}{20}$
xiv. $\frac{2}{5}+\frac{3}{7}$
xv. $\frac{2}{9}+\frac{5}{18}$
xvi. $\frac{1}{5}+\frac{4}{20}$
xvii. $\frac{3}{8}+\frac{2}{5}$
xviii. $\frac{7}{3}+\frac{2}{5}$
xix. $\frac{1}{4}+\frac{7}{10}$
xx. $\frac{1}{4}+\frac{7}{10}$

xxi. $\frac{3}{10}+\frac{11}{30}$

xxii. $\frac{2}{5}+\frac{3}{8}$

xxiii. $\frac{2}{7}+\frac{4}{11}$

xxiv. $\frac{7}{10}+\frac{1}{20}$

xxv. $\frac{34}{35}+\frac{24}{25}$

xxvi. $\frac{1}{120}+\frac{1}{12}$

xxvii. $\frac{3}{8}+\frac{13}{64}$

xxviii. $\frac{7}{51}+\frac{6}{34}$

xxix. $\frac{39}{40}+\frac{49}{50}$

xxx. $\frac{1}{110}+\frac{1}{11}$

xxxi. $\frac{2}{9}+\frac{27}{81}$

xxxii. $\frac{2}{65}+\frac{4}{39}$

xxxiii. $\frac{3}{4}+\frac{1}{4}$

xxxiv. $\frac{1}{5}-\frac{1}{10}$

xxxv. $\frac{1}{10}-\frac{1}{5}$

xxxvi. $\frac{1}{3}-\frac{1}{4}$

xxxvii. $\frac{3}{8}-\frac{3}{12}$

xxxviii. $\frac{4}{15}-\frac{1}{5}$

xxxix. $\frac{11}{12}-\frac{5}{6}$

xl. $\frac{7}{18}-\frac{5}{12}$

xli. $\frac{5}{12}-\frac{7}{18}$

xlii. $\frac{4}{5}-\frac{1}{5}$

xliii. $\frac{1}{4}-\frac{1}{8}$

xliv. $\frac{1}{8}-\frac{1}{4}$

xlv. $\frac{1}{5}-\frac{1}{4}$

xlvi. $\frac{5}{6}-\frac{3}{8}$

xlvii. $\frac{5}{16}-\frac{1}{4}$

xlviii. $\frac{13}{14}+\frac{6}{7}$

xlix. $\frac{11}{20}-\frac{8}{15}$

l. $\frac{8}{15}-\frac{11}{20}$

li. $\frac{21}{54}-\frac{19}{48}$

lii. $\frac{115}{120}-\frac{81}{90}$

liii. $\frac{10}{11}-\frac{11}{13}$

liv. $\frac{12}{13}-\frac{10}{11}$

lv. $\frac{12}{13}-\frac{15}{17}$

lvi. $\frac{200}{32}-\frac{150}{24}$

lvii. $\frac{150}{24}-\frac{200}{32}$

lviii. $\frac{29}{60}-\frac{12}{48}$

lix. $\frac{15}{63}-\frac{17}{81}$

lx. $\frac{35}{91}-\frac{25}{65}$

lxi. $\frac{11}{36}-\frac{12}{33}$

lxii. $\frac{19}{75}-\frac{11}{45}$

lxiii. $\frac{35}{45}-\frac{28}{36}$

lxiv. $\frac{3}{4}\times\frac{3}{5}$

lxv. $\frac{4}{7}\times\frac{1}{3}$

lxvi. $\frac{8}{3}\times\frac{1}{5}$

lxvii. $\frac{1}{5} \times \frac{5}{1}$

lxviii. $\frac{1}{2} \times \frac{3}{8}$

lxix. $\frac{3}{7} \times \frac{5}{7}$

lxx. $\frac{2}{3} \times \frac{3}{4}$

lxxi. $\frac{7}{4} \times \frac{2}{3}$

lxxii. $\frac{2}{5} \times \frac{3}{5}$

lxxiii. $\frac{2}{7} \times \frac{1}{8}$

lxxiv. $\frac{3}{11} \times \frac{12}{11}$

lxxv. $\frac{8}{15} \times \frac{15}{8}$

lxxvi. $\frac{3}{8} \times \frac{1}{7}$

lxxvii. $\frac{4}{13} \times \frac{14}{13}$

lxxviii. $\frac{11}{13} \times \frac{13}{11}$

lxxix. $\frac{5}{3} \times \frac{7}{6}$

lxxx. $\frac{7}{2} \times \frac{3}{4}$

lxxxi. $\frac{9}{11} \times \frac{9}{13}$

lxxxii. $\frac{13}{4} \times \frac{15}{26}$

lxxxiii. $\frac{11}{17} \times \frac{16}{17}$

lxxxiv. $\frac{5}{8} \times \frac{11}{3}$

lxxxv. $\frac{0}{3} \times \frac{11}{28}$

lxxxvi. $\frac{2}{19} \times \frac{18}{19}$

lxxxvii. $\frac{7}{7} \times \frac{11}{11}$

lxxxviii. $\frac{3}{7} \times \frac{17}{51}$

lxxxix. $\frac{13}{27} \times \frac{9}{26}$

xc. $\frac{5}{14} \times \frac{70}{55}$

xci. $\frac{7}{3} \times 5\frac{1}{4}$

xcii. $\frac{12}{18} \times 1\frac{1}{2}$

xciii. $2\frac{1}{5} \times \frac{5}{11}$

xciv. $3\frac{2}{4} \times \frac{20}{21}$

xcv. $\frac{11}{18} \times 3\frac{3}{5}$

xcvi. $\frac{17}{24} \times 5\frac{20}{34}$

xcvii. $\frac{15}{8} \times \frac{22}{100}$

xcviii. $\frac{35}{48} \times \frac{36}{25}$

xcix. $\frac{15}{26} \times \frac{65}{75}$

c. $\frac{9}{12} \times \frac{96}{81}$

ci. $\frac{13}{27} \times \frac{9}{26}$

cii. $\frac{16}{7} \times \frac{28}{64}$

ciii. $\frac{1}{4} \div \frac{1}{3}$

civ. $\frac{1}{6} \div \frac{11}{12}$

cv. $\frac{11}{12} \div \frac{1}{6}$

cvi. $\frac{28}{56} \div \frac{7}{31}$

cvii. $\frac{19}{72} \div \frac{38}{36}$

cviii. $\frac{81}{13} \div \frac{18}{31}$

cix. $\frac{45}{23} \div \frac{9}{45}$

cx. $\frac{97}{16} \div \frac{35}{24}$

cxi. $\frac{63}{18} \div \frac{54}{21}$

cxii. $\frac{63}{54} \div \frac{12}{18}$

cxiii. $4\frac{3}{5} \div \frac{46}{15}$

cxiv. $\frac{112}{77} \div \frac{28}{33}$

cxv. $5\frac{4}{7} \div \frac{39}{13}$

cxvi. $4\frac{3}{2} \div \frac{22}{7}$

cxvii. $6\frac{3}{5} \div \frac{22}{10}$

cxviii. $\frac{420}{66} \div \frac{84}{96}$

cxix. $\frac{63}{56} \div \frac{36}{32}$

cxx. $\frac{63}{32} \div \frac{56}{36}$

cxxi. $\frac{63}{56} \div \frac{32}{36}$

cxxii. $\frac{26}{55} \div \frac{65}{77}$

cxxiii. $\frac{13}{64} \div \frac{169}{8}$

cxxiv. $\frac{51}{37} \div \frac{17}{74}$

cxxv. $\frac{11}{15} \div \frac{44}{45}$

cxxvi. $\frac{51}{37} \div \frac{17}{74}$

cxxvii. $\frac{10}{21} \div \frac{112}{106}$

cxxviii. $\frac{11}{8} \div \frac{7}{3}$

cxxix. $\frac{1}{2} + \frac{1}{3} + \frac{1}{4}$

cxxx. $\frac{3}{1} + \frac{2}{2} + \frac{1}{3}$

cxxxi. $\frac{5}{6} + \frac{3}{8} + \frac{3}{4}$

cxxxii. $\frac{1}{6} + \frac{1}{5} + \frac{1}{4}$

cxxxiii. $\frac{1}{4} + \frac{2}{2} + \frac{3}{1}$

cxxxiv. $\frac{9}{10} + \frac{4}{5} + \frac{1}{2}$

clvi. $\frac{1}{2} + \frac{1}{4} + \frac{3}{5} + \frac{7}{15} + \frac{9}{20} + \frac{5}{8} + \frac{9}{10}$

cxxxv. $\frac{3}{8} + \frac{9}{11} + \frac{1}{4}$

cxxxvi. $\frac{11}{15} + \frac{18}{25} + \frac{4}{5}$

cxxxvii. $\frac{3}{5} + \frac{9}{10} + \frac{11}{18}$

cxxxviii. $\frac{8}{7} + \frac{7}{8} + \frac{55}{56}$

cxxxix. $\frac{3}{5} + \frac{5}{7} + \frac{7}{9}$

cxl. $\frac{11}{24} + \frac{17}{36} + \frac{7}{9}$

cxli. $\frac{11}{24} + \frac{19}{32} + \frac{27}{40}$

cxlii. $\frac{21}{12} - \frac{5}{4} - \frac{1}{2}$

cxliii. $\frac{31}{15} - \frac{7}{5} - \frac{1}{3}$

cxliv. $\frac{3}{8} - \frac{9}{11} - \frac{1}{4}$

cxlv. $\frac{1}{2} \times \frac{1}{3} \times \frac{1}{4}$

cxlvi. $\frac{5}{2} \times \frac{4}{3} \times \frac{3}{4}$

cxlvii. $\frac{13}{37} \times \frac{0}{11} \times \frac{28}{29}$

cxlviii. $\frac{2}{3} \times \frac{2}{3} \times \frac{2}{3}$

cxlix. $\frac{1}{5} \times \frac{1}{4} \times \frac{1}{3}$

cl. $\frac{8}{3} \times \frac{7}{11} \times \frac{3}{8}$

cli. $\frac{3}{4} \times \frac{3}{4} \times \frac{3}{4}$

clii. $\frac{8}{51} \times \frac{15}{17} \times \frac{0}{31}$

cliii. $\frac{87}{564} \times \frac{56}{12} \times \frac{36}{4}$

cliv. $\frac{6}{7} + \frac{7}{6} + \frac{41}{42}$

clv. $\frac{2}{4} + \frac{4}{6} + \frac{6}{8}$

clvii. $\frac{3}{8}+\frac{7}{12}+\frac{11}{20}$

clviii. $\frac{11}{45}+\frac{7}{12}+\frac{19}{30}+\frac{3}{10}+\frac{5}{6}+\frac{13}{15}$

clix. $\frac{11}{16}+\frac{8}{12}+\frac{5}{8}+\frac{17}{24}+\frac{111}{60}$

clx. $\frac{67}{144}-\frac{1}{12}-\frac{11}{60}$

clxi. $\frac{70}{130}-\frac{25}{91}-\frac{3}{26}$

clxii. $\frac{101}{28}-\frac{203}{70}-\frac{2}{35}$

clxiii. $\frac{53}{50}-\frac{9}{10}-\frac{1}{15}-\frac{7}{75}$

clxiv. $\frac{4}{5}+\frac{3}{10}+\frac{5}{12}+\frac{19}{30}+\frac{1}{3}+\frac{5}{6}+\frac{3}{4}$

clxv. $\frac{3}{4}+\frac{5}{9}+\frac{5}{6}+\frac{7}{12}+\frac{2}{3}+\frac{1}{2}$

clxvi. $\frac{4}{7}+\frac{1}{6}+\frac{9}{14}+\frac{5}{12}+\frac{16}{21}+\frac{1}{3}+\frac{7}{8}$

clxvii. $\frac{5}{16}+\frac{8}{5}+\frac{31}{48}+\frac{8}{15}+\frac{3}{5}+\frac{11}{12}+\frac{11}{24}$

clxviii. $\frac{39}{18}-\frac{50}{45}-\frac{11}{36}-\frac{81}{90}$

clxix. $\frac{7}{15}+\frac{8}{75}+\frac{4}{25}+\frac{11}{45}+\frac{161}{150}+\frac{23}{50}$

clxx. $\frac{7}{15}-\frac{3}{8}-\frac{1}{60}-\frac{40}{40}$

clxxi. $\frac{5}{12}-\frac{3}{8}-\frac{1}{32}-\frac{1}{96}$

clxxii. $\frac{17}{66}-\frac{3}{44}-\frac{2}{33}-\frac{7}{55}$

5º) *Escreve os seguintes números sob a forma de fracções irredutiveis*:

i. $\frac{3}{7}+0{,}7$

ii. $\frac{9}{12}+3{,}68$

iii. $1{,}9+\frac{7}{25}$

iv. $\frac{461}{50}+2{,}6$

v. $0{,}9+\frac{2}{3}$

vi. $0{,}6+\frac{2}{3}$

vii. $\frac{11}{3}+0{,}89$

viii. $0{,}39+\frac{11}{13}$

ix. $0{,}8-\frac{7}{10}$

x. $0{,}92-\frac{4}{5}$

xi. $0{,}6-\frac{3}{10}$

xii. $0{,}68-\frac{3}{4}$

xiii. $\frac{13}{15} - 0{,}7$

xiv. $\frac{7}{20} - 0{,}85$

xv. $\frac{11}{12}0{,}9$

xvi. $\frac{23}{25} - 0{,}92$

xvii. $2\frac{3}{4} + 7\frac{3}{4}$

xviii. $1\frac{9}{10} + 9\frac{1}{10}$

xix. $5\frac{3}{8} + 2\frac{1}{4}$

xx. $10\frac{7}{9} + 3\frac{3}{4}$

xxi. $3\frac{1}{5} - 2\frac{1}{6}$

xxii. $5\frac{11}{13} - 2\frac{25}{26}$

xxiii. $11\frac{7}{8} - 1\frac{3}{4}$

xxiv. $7\frac{1}{12} - 6\frac{1}{4}$

xxv. $3\frac{2}{5} + 2\frac{1}{5}$

xxvi. $4\frac{2}{7} + 5\frac{5}{7}$

xxvii. $6\frac{1}{9} + 3\frac{4}{5}$

xxviii. $5\frac{1}{4} + 2\frac{3}{7}$

xxix. $5\frac{1}{4} - 4\frac{1}{6}$

xxx. $8\frac{10}{11} - \frac{100}{3}$

xxxi. $13\frac{4}{5} - 10\frac{7}{10}$

xxxii. $\frac{17{,}43}{5{,}42} + 4{,}55$

xxxiii. $\frac{17{,}43+4{,}55}{5{,}42}$

xxxiv. $\frac{17{,}13}{5{,}42+4{,}55}$

xxxv. $\frac{25{,}98}{6{,}32} - 5{,}62$

xxxvi. $\frac{25{,}98-5{,}62}{6{,}32}$

xxxvii. $\frac{25{,}98}{6{,}25+14{,}85}$

xxxviii. $\frac{5{,}28}{4{,}33} + \frac{7{,}08}{5{,}44}$

xxxix. $\frac{8{,}44}{5{,}07} + \frac{11{,}07}{4{,}54}$

xl. $\frac{5{,}28+7{,}08}{4{,}33+5{,}44}$

xli. $\frac{8{,}44+11{,}07}{5{,}07+4{,}54}$

xlii. $\frac{8{,}44\div(5{,}07+11{,}07)}{4{,}54}$

xliii. $\frac{5{,}28\div(4{,}33+7{,}08)}{5{,}44}$

xliv. $\frac{7}{12} + 0{,}35 + 0{,}45 + \frac{9}{20}$

xlv. $\frac{9}{7} + 11{,}5 + \frac{3}{2}$

xlvi. $\frac{2}{15} + 1{,}47 + 3{,}24 + \frac{1}{2}$

6º) *Completa o quadro seguinte*:

a	b	$a+b$	$a-b$	$b-a$	$a\times b$	$a\div b$	$b\div a$	$a\times a$	$b\times b$
$\frac{1}{2}$	$\frac{4}{3}$								
$\frac{6}{5}$	$\frac{7}{8}$								
$\frac{11}{5}$	$\frac{7}{3}$								
$\frac{5}{12}$	$\frac{7}{20}$								
$\frac{15}{18}$	$\frac{4}{15}$								

7º) *Calcula por meio dos números indicados nos exercícios as seguintes expressões.* $\boldsymbol{a+b}$; $\boldsymbol{a+b+c}$; $\boldsymbol{a-b}$; $\boldsymbol{b-c}$; $\boldsymbol{a\times b}$; $\boldsymbol{a\times c}$; $\boldsymbol{a\times b}$; $\boldsymbol{a\times b+c}$; $\boldsymbol{a\div b}$; $\boldsymbol{a\div c}$; $\boldsymbol{(a+b)\times c}$; $\boldsymbol{(a-b)\times c}$; $\boldsymbol{a+b\times c}$ *e* $\boldsymbol{a-b\times c}$ *onde*:

a) $a=\frac{3}{4}\ ; b=\frac{7}{8}\ ; c=\frac{5}{3}$

b) $a=\frac{7}{12}\ ; b=\frac{2}{5}\ ; c=\frac{2}{15}$

c) $a=\frac{2}{7}\ ; b=\frac{5}{21}\ ; c=\frac{3}{15}$

d) $a=\frac{5}{6}\ ; b=\frac{15}{8}\ ; c=\frac{20}{16}$

e) $a=\frac{5}{12}\ ; b=\frac{8}{15}\ ; c=\frac{7}{10}$

f) $a=\frac{15}{12}\ ; b=\frac{18}{122}\ ; c=\frac{62}{110}$

✓ *Calcule*:

8º) $\frac{5}{2}\times\left(\frac{3}{4}+\frac{1}{3}\right)$

9º) $\frac{7}{4}\times\left(\frac{1}{5}+\frac{2}{3}\right)$

10º) $\frac{8}{11}\times\left(\frac{7}{4}-\frac{3}{8}\right)$

11º) $\frac{17}{91}\times\left(\frac{12}{30}-\frac{4}{10}\right)$

12º) $\frac{3}{7}\times\left(\frac{11}{4}+\frac{1}{5}\right)$

13º) $\frac{8}{5}\times\left(\frac{3}{7}+\frac{1}{4}\right)$

14º) $\frac{5}{13}\times\left(\frac{54}{20}+\frac{1}{10}\right)$

15º) $\frac{11}{13}\times\left(\frac{2}{5}+\frac{3}{5}\right)$

16º) $\left(\frac{3}{4}+\frac{2}{4}\right)\times\frac{5}{3}$

17º) $\left(\frac{1}{2}+\frac{1}{3}\right)\times\frac{15}{4}$

18º) $\left(\frac{7}{5}+\frac{3}{4}\right)\times\frac{15}{43}$

19º) $\left(\frac{4}{7}+\frac{3}{4}\right)\times\frac{15}{43}$

20º) $\left(\frac{4}{7}+\frac{1}{14}\right)\times 1\frac{5}{9}$

21º) $\left(\frac{2}{3}+\frac{1}{3}\right)\times\frac{2}{5}$

22º) $\left(\frac{1}{3}+\frac{1}{4}\right)\times\frac{18}{13}$

23º) $\left(\frac{9}{8}+\frac{18}{45}\right)\times\frac{23}{36}$

24º) $\left(\frac{8}{9}+\frac{1}{18}\right)\times 1\frac{1}{17}$

25º) $\left(\frac{7}{11}-\frac{2}{11}\right)\times\frac{23}{25}$

26º) $\left(\frac{8}{3}-\frac{2}{5}\right)\times\frac{12}{17}$

27º) $\left(\frac{8}{13}-\frac{2}{3}\right)\times\frac{3}{5}$

28º) $\left(\frac{13}{11}-\frac{11}{13}\right)\times 5\frac{1}{3}$

29º) $\left(\frac{4}{7}-\frac{1}{7}\right)\times\frac{35}{25}$

30º) $\left(\frac{7}{4}-\frac{2}{5}\right)\times\frac{20}{27}$

31º) $\left(3\frac{2}{5}-\frac{8}{15}\right)\times\frac{15}{43}$

32º) $\frac{5}{2}\times\left(\frac{11}{5}-\frac{5}{11}\right)$

33º) $\frac{7}{3}\times\left(\frac{3}{5}-\frac{1}{6}\right)$

34º) $\frac{5}{2}\times\frac{11}{5}-\frac{5}{11}$

35º) $\frac{3}{4}\times\left(2-\frac{2}{5}\right)$

36º) $\frac{3}{4}\times 2-\frac{2}{5}$

37º) $2\frac{3}{7}\times\left(\frac{8}{3}-2\right)$

38º) $2\frac{3}{7}\div\frac{8}{3}-2$

39º) $\frac{5}{3}\times\left(4-\frac{7}{4}\right)$

40º) $\frac{5}{3}\times 4-\frac{7}{4}$

41º) $\left(\frac{3}{5}+\frac{1}{4}\right)\times\left(\frac{2}{3}+\frac{1}{2}\right)$

42º) $\left(\frac{3}{4}+\frac{1}{5}\right)\times\left(\frac{1}{3}+\frac{3}{2}\right)$

43º) $\frac{3}{4}+\frac{1}{5}\times\frac{1}{3}+\frac{3}{2}$

44º) $\frac{3}{5}+\frac{1}{4}\times\frac{2}{3}+\frac{1}{2}$

45º) $\frac{2}{7}\times\frac{21}{8}-\frac{3}{5}\times\frac{5}{6}$

46º) $\frac{1}{3}\times\frac{9}{8}-\frac{1}{2}\times\frac{1}{4}$

47º) $\left(\frac{1}{2}+\frac{1}{3}\right)\div\frac{7}{12}$

48º) $\left(\frac{1}{3}+\frac{1}{4}\right)\div\frac{5}{6}$

49º) $\frac{\frac{1}{3}}{\frac{1}{2}}$; $\frac{\frac{3}{4}}{\frac{6}{5}}$; $\frac{\frac{3}{4}}{\frac{5}{6}}$ e $\frac{\frac{1}{4}}{\frac{1}{3}}$

50º) $\frac{\frac{3}{2}}{\frac{4}{5}}$; $\frac{\frac{3}{2}}{\frac{5}{4}}$; $\frac{\frac{3}{7}}{\frac{12}{21}}$ e $\frac{\frac{15}{16}}{\frac{16}{15}}$

51º) $\frac{\frac{8}{11}}{\frac{4}{33}}$; $\frac{\frac{5}{7}}{\frac{10}{77}}$; $\frac{\frac{12}{13}}{\frac{12}{39}}$ e $\frac{\frac{5}{8}}{\frac{20}{32}}$

52º) $\frac{\frac{3}{4}}{2}$; $\frac{4}{\frac{7}{8}}$; $\frac{\frac{7}{11}}{2}$ e $\frac{5}{\frac{3}{4}}$

53º) $\frac{45}{\frac{15}{75}}$ e $\frac{\frac{18}{22}}{36}$

54º) $\frac{\frac{3}{4}+\frac{2}{5}}{\frac{19}{15}}$

55º) $\frac{\frac{3}{5}+\frac{1}{4}}{\frac{17}{12}}$

56º) $\left(\frac{4}{9}+\frac{5}{12}\right)\div\frac{62}{81}$

57º) $\left(\frac{5}{6}+\frac{1}{4}\right)\div\frac{13}{18}$

58º) $\frac{\frac{4}{7}+\frac{1}{14}}{\frac{9}{14}}$

59º) $\frac{\frac{7}{5}+\frac{3}{4}}{\frac{89}{75}}$

60º) $\frac{4\frac{1}{2}+\frac{3}{2}}{7}$

61º) $\frac{5-\frac{3}{7}}{8}$

62º) $\frac{7-\frac{15}{4}}{\frac{39}{17}}$

63º) $\frac{\frac{19}{2}-8}{\frac{27}{16}}$

64º) $\frac{11}{8} \div 5 - \frac{9}{4}$

65º) $\left(\frac{8}{13} - \frac{2}{3}\right) \div \frac{39}{26}$

66º) $\left(\frac{18}{5} - 4\right) \div \frac{11}{20}$

67º) $\left(\frac{13}{2} - 6\right) \div \frac{17}{19}$

68º) $\frac{5}{4} - \frac{3}{15} \div \frac{1}{5}$

69º) $\frac{1}{4} - \frac{1}{5} \div \frac{3}{25}$

70º) $5 - \frac{3}{4} \div \frac{15}{16}$

71º) $\frac{3}{4} \div \frac{15}{16} - 5$

72º) $4 - \frac{2}{3} \div \frac{8}{27}$

73º) $\frac{2}{3} \div \frac{8}{27} - 4$

74º) $\left(\frac{1}{2} + \frac{1}{3}\right) \div \left(\frac{1}{4} + \frac{1}{5}\right)$

88º) $\frac{\frac{4}{7} \times \frac{21}{12}}{5}$

89º) $\frac{\frac{3}{8} \times \frac{24}{6}}{6}$

90º) $\frac{4}{7} \times \frac{\frac{21}{12}}{5}$

91º) $\frac{8}{3} \times \frac{24}{\frac{9}{6}}$

75º) $\left(\frac{2}{3} + \frac{3}{4}\right) \div \left(\frac{4}{5} + \frac{5}{6}\right)$

76º) $\frac{1}{2} + \frac{1}{3} \div \frac{1}{4} + \frac{1}{5}$

77º) $\frac{2}{3} + \frac{3}{4} \div \frac{4}{5} + \frac{5}{6}$

78º) $\frac{\frac{9}{4}+\frac{4}{9}}{\frac{3}{2}+\frac{2}{3}}$

79º) $\frac{\frac{4}{9}+\frac{1}{4}}{\frac{2}{3}+\frac{1}{2}}$

80º) $\frac{9}{4} - \frac{4}{9} \div \frac{3}{2} + \frac{2}{3}$

81º) $\frac{9}{4} - \frac{4}{9} \div \frac{2}{3} + \frac{1}{2}$

82º) $\left(\frac{5}{6} \times \frac{11}{8}\right) \div \frac{11}{6}$

83º) $\left(\frac{4}{7} \times \frac{3}{8}\right) \div \frac{6}{7}$

84º) $\frac{5}{6} \div \left(\frac{11}{8} \times \frac{11}{6}\right)$

85º) $\frac{4}{7} \times \left(\frac{3}{8} \div \frac{6}{7}\right)$

86º) $\left(\frac{4}{27} \div \frac{3}{8}\right) \times \frac{16}{7}$

87º) $\left(\frac{3}{5} \div 6\right) \times \frac{15}{7}$

92º) $\frac{\frac{5}{3}}{\frac{11}{8} \times \frac{11}{6}}$

93º) $\frac{\frac{4}{7}}{\frac{3}{8} \times \frac{6}{7}}$

94º) $2 \times \frac{\frac{3}{5}}{\frac{4}{15}}$

95º) $2 \times \frac{\frac{1}{4}}{\frac{9}{16}}$