

1.  $2n + 200n + 4n + 198n$
2.  $2,6b + 3,4c + 6,4 + 1,8b + 4,42$
3.  $8,5c - 3,2c$
4.  $6,3x - 1,9a - 0,7x$
5.  $4x + 7x$
6.  $(-5b) + (-7b)$
7.  $(-8b) - (-7b)$
8.  $(-13y) - (-21y)$
9.  $7a + (3d + 5a - 6c + 2d)$
10.  $15a - (3d + 7c - 5a) + (d - 3c)$
11.  $(3a - 4b) - (-5a + 7b) + d$
12.  $-(9x + 3y) - (-15x - 7y) + 6$
13.  $2x - [4y - (2x - 3y) - 4x] - 6y + (2y - z)$
14.  $15a - \{a - (-5a + 3b + 5c - 2a) + [3c - (5a + 7b)]\}$
15.  $18 = x + 3 \cdot 2$
16.  $10 = x - 3 \cdot 5$
17.  $\frac{3}{2} = 6x$
18.  $\frac{3}{20} = \frac{y}{5}$
19.  $\frac{28}{8} = \frac{21}{x}$
20.  $8x - [3x + (4 - 0 - x)] = 4x + 4 \cdot 2$
21.  $x - (a - 2b) = 2b - (x - 3 \cdot 1 \cdot a)$
22.  $0,8c \cdot 4,5b \cdot 3,1d$
23.  $1\frac{1}{2} ab \cdot \frac{2}{3} d \cdot \frac{1}{3} x$
24.  $(-a) \cdot (+b) \cdot (-c)$
25.  $(-1\frac{2}{3}x) \cdot (-4\frac{1}{2}y) \cdot \frac{a}{3}$
26.  $2x \cdot (-3b) \cdot (-5a) \cdot (-2c)$
27.  $5y (3a - b + 4c)$
28.  $(-3x) (18e + 6\pi - 3c)$

29.  $(7a + 2p) \cdot (6 - x)$
30.  $(4a - 3b) \cdot (2c + 5d) \cdot (4m - x)$
31.  $(4a + 8b - 5c) \cdot 6x - [(5a - 3b + 7c) \cdot 5x]$
32.  $15ax - 20bx + 35cx + 40ex$
33.  $4ax + 5x + 7cxe - ce$
34.  $3abn - 6abm + x \cdot 6abm$
35.  $\frac{4ax - 2ab}{6ax + 10ab}$
36.  $\frac{ax - bx + ay - by}{2(a - b) \cdot 3} \cdot 6$
37.  $\frac{3ax}{4by} = \frac{(-5c) \cdot 3ax}{?}$
38.  $\frac{a + b - d}{a - b} = \frac{?}{bx - ax}$
39.  $\frac{9xy}{2x} + \frac{7xy}{2x} - \frac{12xy}{2x} - \frac{2xy}{2x}$
40.  $\frac{ax + b}{(-b) + a} - \frac{bx + y}{a - b}$
41.  $\frac{2}{3x} + \frac{1}{4xy} + \frac{6}{5yz} + \frac{1}{2xy} - \frac{5}{12xy}$
42.  $\frac{a - u}{6a} \cdot \frac{3x}{n + x}$
43.  $(\frac{2a}{x} + 4a - \frac{5a}{6x}) \cdot (-\frac{3x}{a}) + ax$
44.  $\frac{18x}{15y} : \frac{3b}{5a}$
45.  $\frac{24ac}{6b} : 4c$
46.  $\frac{6a - 2b}{3x + 15} : \frac{4c}{9x - 3y} + 1$
47.  $\frac{4ab + 3ac - 18gd}{3a}$
48.  $(32ad + 16ac) : (4d + 2c)$
49.  $(2abx + 2abz - 3ax - 3az) : (x + z)$
50.  $(a^4 + 4a^3b + 6a^2b^2 + 4ab^3 + b^4) : (a + b)$
51.  $(4a - 3b) - (9b - 3a) - 5a(-10b) - 12a + 7b$
52.  $[(4r - 2s) - (5s - 2t)] - \{6s - [5t - (3r + 5t) - 9s] + 9s\}$
53.  $6bd - 8bz - \{2dz - [3bd - [5bz + 6dz] + 7dz] - 2bd\}$
54.  $8a \cdot 9b \cdot 5x \cdot 2d$
55.  $2b \cdot 5 \cdot 6ac + 3a \cdot 2c \cdot 4b$
56.  $3xy(-4a)$

57.  $(-5.3 bx) \cdot 1.4 ac$
58.  $(-2xy) \cdot (-4a + 7b)$
59.  $(a+5) \cdot (n-3)$
60.  $(2a + 3.1b + c) \cdot (10 + 4x)$
61.  $(2x - y)(3m - n) - (2x - y)(m + 3n)$
62.  $7a - 3b [(x - 4y + 3)(6m - 2) + 8x + 9]$
63.  $3[7(8a + 2b) + 5(4b - 9a)] - 2[6(4b - 3a) - 2(a - b)]$
64.  $ax + ay - az$  Faktoren? / facteurs?
65.  $5ax + 7b - 25ay + 20a$  " "
66.  $6ab - 2a - 6b + 2$  " "
67.  $xy - 2x - 6y + 12$  " "
68.  $12ac - 15ab - 8bc + 10b^2$  " "
69.  $4[(2y - 3z + 5) \cdot 3 - (7y + 4z - 6) \cdot 2] - 5(2y - z - 8)$
70.  $\frac{6x - 8}{20y + 12} - \frac{6x + 5}{15y - 6}$
71.  $\left(-\frac{3}{2} \frac{(a-b)}{(x+y)}\right) \left(\frac{x+y}{a-b} - \frac{2}{3} \frac{(x+y)}{(a-b)} + 6d\right)$
72. 
$$\frac{\frac{5a - 3b}{15x} - \frac{9a - 8b}{12y}}{\frac{4y - 9x}{4b} - \frac{3y - 10x}{5a}}$$
73. 
$$\left. \begin{array}{l} \frac{1}{x} + \frac{1}{y} = \frac{1}{2} + 2x \\ \frac{1}{2x} - \frac{1}{2y} = \frac{1}{12} + x \end{array} \right\}$$
74.  $4xy + 5xz + 3y - 10xy - 7y + 6xz + 4y$
75.  $3.7x + 13y - 4.2 - 38x + 2.8y + 13 + 12x$
76.  $6a - 2b + 5c - (7b + 4c)$
77.  $[(4r - 2s) - (5s - 2t)] - \{6s - [5t - (3r + 5t)] - 9s\}$
78.  $(y - 9)(x - 4)$
79.  $\frac{5a + 7b}{12a + 6b} - \frac{a + b}{2a + b}$
80.  $\frac{55ay - 66by}{45ax - 54bx}$
81.  $\left(-\frac{a}{x}\right) \cdot \left(-\frac{x}{t}\right) \cdot \frac{3tx}{4b}$
82.  $(12ab - 18bc - 30bx) : 6b$
83.  $\frac{30ax + 24bx - 35ay - 28by}{5a + 4b}$

84.  $(9r^2 - rs + 4s^2) \cdot (2r^2 + rs - s^2)$
85.  $(u-v) \cdot (u+k) - (u-k) \cdot (u+v)$
86.  $2h^2 + 38h + 120 = 2 \cdot \dots$
87.  $(32a^2b^2 + 20a^3b^3 - 36a^4b^3 - 4a^5b) : (-4a^2b)$
88.  $19.2(m-n)^2(r-s) : [4.8(m-n)]$
89.  $(m^2 - mn - 2m + 2n) : (m-n)$
90.  $(a^4 - 9a^3 + 6a^2 - 5a + 1) : (a-2)$
91. 
$$\frac{3(k^2 - q^2)}{k^2 - 2kq + q^2}$$
92. 
$$\frac{8x + 3}{96x^3 + 28x^2 + 37x + 15}$$
93. 
$$\frac{x^2}{x+1} - \frac{1}{x+1}$$
94. 
$$\frac{x}{x-y} - 1$$
95. 
$$\frac{2a}{a+1} - \frac{2a^2-3}{a^2-1} - \frac{1}{a-1}$$
96. 
$$\frac{2a-11}{3a-5} - \frac{4a+15}{a+7} + 1$$
97. 
$$(a+5) \cdot \frac{a-5}{a^2+10a+25}$$
98. 
$$-\frac{9rs}{4p \cdot q} \left( \frac{-2rs}{3p} \right)$$
99. 
$$\left( \frac{1}{x} + \frac{1}{y} \right) \left( \frac{1}{x} - \frac{1}{y} \right)$$
100. 
$$\left( \frac{5p^2 - 5q^2}{m} \right) : (5p - 5q)$$
101. 
$$\frac{r^2 - s^2}{2r + s} : \frac{r + s}{4r + 2s}$$
102. 
$$\frac{2x-19}{3x-7} - \frac{5x}{6x-8} - \frac{1}{2}$$
103. 
$$\frac{a^4 + a^3 - 4a^2 - 5a - 5}{a^2 + a + 1}$$

104.  $x \in \mathbb{N} \quad x + 4 = 12$
105. "  $7x = 4x + 24$
106. "  $\frac{x}{7} + 2 = 10$
107. "  $\frac{30}{x} = 6$
108. "  $s(r-x) - q(x-r) = 0$
109.  $x, y \in \mathbb{N} \quad (x-7)(3-y) + 7 = 9-x-2+x$
110.  $x \in \mathbb{N} \quad (2x)+5x > 21$
111. "  $-3x > 1$
112. "  $-3(2x+5) > 8x-20$
113.  $\frac{5x}{6} - \frac{1}{2} = \frac{x}{6}$
114.  $9x + \frac{1}{2} = 2x - \frac{6}{7}$
115.  $\frac{9x}{14} + \frac{1}{2} = 2x - \frac{6}{7}$
116.  $\frac{3x-4}{30} = \frac{7+2x}{10}$
117.  $\frac{3x-4}{30} = \frac{7}{15} - \frac{2x-3}{10}$
118.  $\frac{x-3}{2} = \frac{3x-5}{4} + \frac{2x-3}{6}$
119.  $\frac{7}{10} - \frac{3}{5}x + \frac{3}{2} + \frac{1}{10}x = 1\frac{4}{5} - \frac{1}{2}x$
120.  $\frac{7}{10} - \frac{3}{5}x + \frac{2}{3} + \frac{1}{10}x = 1\frac{4}{5}$
121.  $\frac{3}{8}x - \frac{9}{10}x + \frac{4}{5}x = \frac{7}{20}x - \frac{3}{40}x$
122.  $\frac{1}{8}x + \frac{x-1}{12} = \frac{2-3x}{12} + \frac{2x-3}{8}$
123.  $\frac{9}{2x} + 5 = \frac{17}{x}$
124.  $\frac{1}{x+1} + \frac{1}{x+3} = \frac{2}{x+2}$
125.  $\frac{1}{2} + \frac{7}{x} + \frac{1}{4} = \frac{12}{x} + \frac{3}{4}$
126.  $\frac{1}{3} + \frac{1}{2x} + \frac{1}{4} = \frac{1}{3x} + 1 + \frac{3}{4x}$
127.  $\frac{7}{x-3} = 4$
128.  $\frac{5}{x-3} = \frac{2}{3-x}$

$$129. \quad \frac{x}{x-7} = \frac{x+5}{x-3}$$

$$130. \quad \frac{1}{x+1} + \frac{1}{x-1} = \frac{2}{x}$$

$$131. \quad \frac{1}{\sqrt{x}+1} + \frac{2}{x+3} = 1$$

$$132. \quad \frac{3x}{x+1} + \frac{5}{x} = 3$$

$$133. \quad \frac{8}{x-3} - \frac{10}{x+3} = \frac{40}{x^2-9}$$

$$134. \quad \frac{2x+3}{x} - \frac{5x-3}{x^2} + \frac{2x^2-x-6}{x^3} = 2$$

$$135. \quad \frac{3+7x}{1+x} - \frac{4-9x}{1-x} + 6 - \frac{15-4x^2}{1-x^2} = 0$$

$$136. \quad \frac{x^2+3}{4x^2+12x+9} = \frac{2x+1}{4x+6} - \frac{x+1}{4x}$$

$$137. \quad \frac{5x^2+32x+3}{x^2+4x+3} = 2 + \frac{3x+9}{x-1}$$

$$138. \quad \frac{7}{x-1} + \frac{3}{x-5} = \frac{2x+5}{x^2-6x+5}$$

$$139. \quad \frac{2}{x-1} + \frac{3}{x-2} = \frac{5}{x-3}$$

$$140. \quad \frac{3x+2x}{x-1} = \frac{-5x}{1-x}$$

$$141. \quad \frac{x}{2-x} = \frac{x}{2(3-x)}$$

$$142. \quad \frac{x-2}{3x} = \frac{2x-4}{6x-5}$$

$$143. \quad 3x^2 - 12x = x^2 - 8x + 16$$

$$144. \quad \frac{4x-1}{2(2x+1)} - \frac{4x-9}{2(2x-3)} = \frac{8}{4x-1} - \frac{4}{2x+1}$$

$$145. \quad \frac{1 + \frac{1}{x}}{1 - \frac{1}{x}} = \frac{1 - \frac{1}{x}}{1 + \frac{1}{x}}$$

$$146. \quad \left( \frac{1}{x+1} + \frac{1}{x+2} \right) \cdot \left( \frac{1}{x+2} + \frac{1}{x+3} \right) = 0$$

$$147. \quad \frac{x}{6} + \frac{x}{8} \geq \frac{14}{3}$$

$$148. \quad \frac{4-x}{2} - \frac{x-3}{6} = \frac{2}{3} + \frac{2x-5}{3}$$

$$149. \quad 2\left(1 - \frac{x}{2}\right) > 1 - \frac{x}{3}$$

$$150. \quad \frac{1}{3} - \frac{3}{2x} + \frac{3}{5x} + \frac{13}{15} + \frac{9}{10x} - \frac{1}{5} = 1$$

$$151. \quad \frac{5}{x-3} \leq \frac{-5}{3-x}$$

152.  $\frac{4x}{x+1} \leq 3 - \frac{5}{x}$

153.  $(x-6)^2 \leq 4x(x-6)$

154.  $\frac{x+5}{x-2} < 0$

155.  $\frac{4}{x} \geq 16 + 0$

156.  $\frac{x^2+3}{4x^2+12x+9} = \frac{2x+1}{4x+6} - \frac{x+1}{4x}$

157.  $\frac{15}{2x+5} - \frac{15}{4x+10} = \frac{19}{3x-7}$

158.  $\frac{5}{x-3} = \frac{2}{3-x}$

159.  $\frac{3+7x}{1+x} - \frac{4-9x}{1-x} + 6 = \frac{15-4x^2}{1-x^2}$

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

161. 
$$\begin{cases} y = \frac{4}{x-2} - 4 \\ 6 = x - y \end{cases}$$

162. 
$$\begin{cases} 4 = \frac{4}{x-2} - y \\ -2 = x + y \end{cases}$$

163. 
$$\begin{cases} y = \frac{4}{x-2} - 4 \\ -6 = x + y \end{cases}$$

164. 
$$\begin{cases} y = \frac{-4}{x-3} + 3 \\ y + x = 6 \end{cases}$$

165. 
$$\begin{cases} y \leq x + 1 \\ y \geq 4x - 2 \\ y \geq -4x - 2 \end{cases}$$

166.

$$\begin{aligned}
 y &\geq \sqrt{1.5x} \\
 y &\geq 0.5x \\
 y &\leq (1.5x)^2 \\
 y &\leq (0.5x)^3
 \end{aligned}$$

167.

$$\begin{aligned}
 y &\geq \frac{5}{4}x + \frac{2}{8} \\
 y &\leq \frac{1}{2} \\
 y &= -\frac{1}{4}x
 \end{aligned}$$

168.

$$\begin{aligned}
 y &= \frac{1}{x+3} + 3 \\
 y &\leq -\frac{1}{2}x + 4 \\
 y &\geq x^3 + 1
 \end{aligned}$$

169.

$$\begin{aligned}
 y &= -\frac{4}{x} + 2 \\
 y &= \frac{6}{x-3} + 4 & x > 0 \\
 y &\geq \frac{6}{x-3} + 4 & x \leq 0
 \end{aligned}$$

170.

$$\begin{aligned}
 3x - 2y + 4 &= 0 \\
 2x - 3y - 4 &= 0 & x \leq 10 \\
 5x + 8y &\geq 16 \\
 2x - y &\leq -5
 \end{aligned}$$

171.

$$\begin{aligned}
 8x + 11y &= 12 \\
 4x &\geq -5y \\
 8x - 7y - 38 &\leq 0 \\
 3x - 7y - 23 &\geq 0
 \end{aligned}$$

172.

$$\begin{aligned}
 9u - 8v &= 80 \\
 11u - 12v &= 100 \\
 u &> 0
 \end{aligned}$$

173.

$$\begin{aligned}
 8x + 5y &\leq 7 \\
 4x + 3y &\leq 1 \\
 16x + 11y &= \text{Maximum}
 \end{aligned}$$



174.

$$\begin{aligned} -x - y &= -8 \\ -x - z &= -11 \\ y + z &= 13 \end{aligned}$$

175.

$$\begin{aligned} x + y &= 5(a+b) \\ x - y &= a - b \\ z &= a - 2b \end{aligned}$$

176.

$$\begin{aligned} 5x - 4y &= 10 + z \\ x &= -2y + 16 \\ 5x + z &= 4y + 10 \end{aligned}$$

177.

$$\begin{aligned} 2x - 3y &= 13 \\ \frac{z}{2} + \frac{w}{3} &= 6 \\ 7x + 3y &= 5 \\ \frac{z}{4} + \frac{w}{2} &= 5 \end{aligned}$$

178.

$$\begin{aligned} \frac{x}{5} + \frac{y}{4} &= \frac{3}{20} \\ \frac{2x}{5} + \frac{y}{2} &= \frac{3}{10} \\ x + y &\geq -1 \\ x - 2y &\leq -4 \end{aligned}$$

179.

$$\begin{aligned} \frac{x+3}{y+8} &= \frac{x+6}{y+9} \\ \frac{x-2}{y+4} &= \frac{x+2}{y+4} \end{aligned}$$

180.

$$\begin{aligned} \frac{2}{x} + \frac{6}{y} &= 0 \\ \frac{3}{x} - \frac{3}{y} &\leq -4 \\ \frac{x+3}{x+1} &\leq \frac{y+6}{y+4} \\ \frac{x-4}{x-2} &\geq \frac{y-5}{y-1} \end{aligned}$$