

高校入試

特 別 対 策 エージェント 問題集

数学 - 計算問題

【解答】

3p

類題 1

- (1) ① 6 ② -2 ③ -5.5
 (2) ① 1 ② 5 ③ -2.5

類題 2

数直線は略

- (1)-2 (2)4 (3)-7 (4)-3.5

類題 3

- (1)-2 (2)-3
 (3)-3 (4)-3
 (5)-15 (6)-3
 (7)-90 (8)-11
 (9)3 (10)4
 (11)8 (12)13
 (13)-1 (14)-1
 (15)-33 (16)-8
 (17)-31 (18)11

5p

類題 4

- (1) $(-8)+(-6)=-8-6$
 $=-14$
 (2) $(-16)-(-27)=-16+27$
 $=11$
 (3) $(+7)-(+5)+(-8)=7-5-8$
 $=7-13$
 $=-6$
 (4) $(+18)+(+13)-(+17)=18+13-17$
 $=31-17$
 $=14$
 (5) $(-6)-(-12)+(-14)-(-9)=-6+12-14+9$
 $=-6-14+12+9$
 $=-20+21$
 $=1$
 (6) $(-35)-(+45)+(+53)-(-67)=-35-45+53+67$
 $=-80+120$
 $=40$

類題 5

- (1) $(+0.5)-(+1.3)+(-2.8)-(-5.6)=0.5-1.3-2.8+5.6$
 $=0.5+5.6-1.3-2.8$
 $=6.1-4.1$
 $=2$
 (2) $(-3.7)+(-6.9)-(-9.6)-(-0.3)=-3.7-6.9+9.6+0.3$
 $=-10.6+9.9$
 $=-0.7$
 (3) $(-\frac{2}{5})+(+\frac{3}{10})-(-\frac{5}{6})=-\frac{2}{5}+\frac{3}{10}+\frac{5}{6}$
 $=\frac{-12+9+25}{30}$
 $=\frac{-12+34}{30}$
 $=\frac{22}{30}$
 $=\frac{11}{15}$
 (4) $(-\frac{3}{7})-(-\frac{7}{8})+(-\frac{9}{14})-(+\frac{1}{8})=\frac{3}{7}+\frac{7}{8}-\frac{9}{14}-\frac{1}{8}$
 $=\frac{24+49-36-7}{56}$
 $=\frac{73-43}{56}$
 $=\frac{30}{56}$
 $=\frac{15}{28}$

類題 6

- (1)-54 (2) -315 (3)35 (4) 247 (5)-176 (6)165

類題 7

- (1) $(-6)\times(-8)\div(-4)=48\div(-4)$
 $=-12$
 (2) $(-36)\times 8\div(-16)=(-288)\div(-16)$
 $=18$
 (3) $2\div(-7)\times(-14)=2\times\frac{1}{7}\times 14$
 $=2\times 2$
 $=4$
 (4) $(-5)\times(-4)\times(-3)=20\times(-3)$
 $=-60$
 (5) $16\div(-4)\times 22=16\times(-\frac{1}{4})\times 22$
 $=-4\times 22$
 $=-88$
 (6) $(-1)\times(-1)\times(-3)\div 6=1\times(-3)\div 6$
 $=(-3)\div 6$
 $=-\frac{3}{6}$
 $=-\frac{1}{2}$

類題 8

(1) $5^2=25$

(2) $6^3=216$

(3) $(-2)^4=4 \times 4$
 $=16$

(4) $(-9^2)=-9 \times 9$
 $=-81$

(5) $-7^3=-7 \times 7 \times 7$
 $=-343$

(6) $(-2)^3=-8$

類題 10

(1) $\frac{9}{100}$

(2) $\frac{25}{2}$

(3) $\frac{1}{729}$

(4) $\frac{9}{4}$ ※2乗の計算をする
前に約分をしておく

(5) $\frac{27}{64}$

(6) $\frac{64}{81}$

類題 12

(1) $5^2 \times 2=5 \times 5 \times 2$
 $=50$

(3) $(-3)^2 \times 5=(-3) \times (-3) \times 5$
 $=45$

(5) $-4^2 \div (-2)=(-16) \div (-2)$
 $=8$

類題 13

(1) $3^2 + (-2)^2=3 \times 3 + (-2) \times (-2)$
 $=9+4$
 $=13$

(3) $7^2 - 11^2=49 - 121$
 $=-72$

(5) $13^2 - 11^2 - 7^2=169 - 121 - 49$
 $=-1$

類題 14

(1) $(-3)^2 \times 2 + 4=9 \times 2 + 4$
 $=18+4$
 $=22$

(3) $(12 - 3^2) \times 5=(12 - 9) \times 5$
 $=3 \times 5$
 $=15$

(5) $20 + (22 - 4^2) \times (-3)=20 + (22 - 16) \times (-3)$
 $=20 + 6 \times (-3)$
 $=20 - 18$
 $=2$

類題 15

(1) $(-\frac{3}{2})^2 \times (\frac{-2^2}{3})=\frac{9}{4} \times (\frac{-4}{3})$
 $=-3$

(3) $(-\frac{13}{2})^2 - (-\frac{1}{4})=\frac{169}{4} - (-\frac{1}{4})$
 $=\frac{169}{4} + \frac{1}{4}$
 $=\frac{170}{4}$
 $=\frac{85}{2}$

類題 9

(1) $-15^2=-15 \times 15$
 $=-225$

(2) $12^2=144$

(3) $(-11)^2=(-11) \times (-11)$
 $=121$

(4) $(-14)^2=-14 \times 14$
 $=-196$

(5) $-13^2=-13 \times 13$
 $=-169$

(6) $(-2)^{10}=4^5$
 $=4 \times 4 \times 4 \times 4 \times 4$
 $=1024$

類題 11

(1) $\frac{25}{4}$

(2) $-\frac{4}{3}$

(3) $-\frac{1}{8}$

(4) $\frac{25}{16}$

(5) $-\frac{8}{729}$

(6) $\frac{512}{27}$

(2) $3 \times 2^3=3 \times 2 \times 2 \times 2$
 $=24$

(4) $(-5) \times (-7^2)=(-5) \times (-7) \times 7$
 $=245$

(6) $(-8) \div (-2)^2=(-8) \div 4$
 $=-2$

(2) $(-3)^2 + (-2)^2=(-3) \times (-3) + (-2) \times 2$
 $=9-4$
 $=5$

(4) $(-4)^2 - (-3)^2=-4 \times 4 - (-3) \times (-3)$
 $=-16-9$
 $=-25$

(6) $(-2)^4 + (-2^3) + (-2)^2=16 + (-8) + 4$
 $=12$

(2) $(-2^2) - 5 \times 7=(-4) - 35$
 $=-39$

(4) $3 - (2 - 5)^2=3 - (-3)^2$
 $=3-9$
 $=-6$

(6) $(2^2 + 3)^2 \div 7 - 7=(4+3)^2 \div 7 - 7$
 $=7^2 \div 7 - 7$
 $=49 \div 7 - 7$
 $=7-7$
 $=0$

(2) $(\frac{1}{3} - \frac{1}{2}) \times (-\frac{3}{2})=(-\frac{1}{6}) \times (-\frac{3}{2})$
 $=\frac{1}{4}$

(4) $\frac{1}{6} \times 13^2 + \frac{1}{3} \times 12^2 - \frac{1}{2} \times 11^2=\frac{1}{6} \times 169 + \frac{2}{6} \times 144 - \frac{3}{6} \times 121$
 $=\frac{1}{6} \times (169 + 2 \times 144 - 3 \times 121)$
 $=\frac{1}{6} \times 94$
 $=\frac{47}{3}$

類題 16

(1) $5 \times a = 5a$

(3) $C \times C \times C \times C = C^4$

(5) $y \div 10 = \frac{y}{10}$

(2) $b \times 2^3 = b \times 8$
 $= 8b$

(4) $(-x) \times (-x) \times (-3^2) = x^2 \times (-9)$
 $= -9x^2$

(6) $(-3) \div m = -\frac{3}{m}$

類題 17

(1) $3 \times a + 5 = 3a + 5$

(3) $(C \times C \times C \times d) + 2 \times d = C^3d + 2d$

(5) $8 + y \div (-3) = 8 - \frac{y}{3}$

(2) $a \times b + 2^4 = ab + 16$

(4) $(-3)^2 - (-x) \times (-x) \times (-x) \times 6 = 9 - (-6x^3)$
 $= 9 + 6x^3$

(6) $(-5) \div (-m) - 2 = \frac{5}{m} - 2$

類題 18

(1) $4a = 4 \times 2$
 $= 8$

(3) $\frac{1}{3b} = \frac{1}{3 \times 7}$
 $= \frac{1}{21}$

(5) $5a + 2b = 5 \times 3 + 2 \times 2$
 $= 15 + 4$
 $= 19$

(2) $-7x = -7 \times (-3)$
 $= 21$

(4) $-\frac{2y}{25} = -\frac{2 \times (-5)}{25}$
 $= -\frac{-10}{25}$
 $= -\frac{-2}{5}$
 $= \frac{2}{5}$

(6) $-2x + (-3y) = -2 \times (-2) - 3 \times (-3)$
 $= 4 - (-9)$
 $= 4 + 9$
 $= 13$

類題 19

(1) $3a^2 + 2a = 3 \times 4^2 + 2 \times 4$
 $= 48 + 8$
 $= 56$

(3) $2a^2 - 3^2b^3 = 2 \times 2^2 - 9 \times (-2)^3$
 $= 2 \times 4 - 9 \times (-8)$
 $= 8 - (-72)$
 $= 8 + 72$
 $= 80$

(2) $\frac{1}{4} \times 3x^2 - 12 = \frac{1}{4} \times 3 \times (-4)^2 - 12$
 $= \frac{1}{4} \times 3 \times 16 - 12$
 $= \frac{1}{4} \times 48 - 12$
 $= 12 - 12$
 $= 0$

(4) $\left(-\frac{10}{x}\right)^2 + (-3)^2y = \frac{100}{x^2} + 9y$
 $= \frac{100}{(-5)^2} + 9 \times (-1)$
 $= \frac{100}{25} - 9$
 $= 4 - 9$
 $= -5$

※先に代入してから約分すると簡単に解ける

類題 20

(1) $5a+8a=13a$

(2) $2b-6b=-4b$

(3) $3x-2x+5x=x+5x$
 $=6x$

(4) $-6x-2y-3x+10y=-6x-3x-2y+10y$
 $=-9x+8y$

(5) $a+5b-3a-2a-3b=a-3a-2a+5b-3b$
 $=-2a-2a+2b$
 $=-4a+2b$

(6) $9x-y+11-3x-4y+9-4y=9x-3x-y-4y-4y+11+9$
 $=6x-5y-4y+20$
 $=6x-9y+20$

類題 21

(1) $(7x+7)+(3x+3)=7x+7+3x+3$
 $=7x+3x+7+3$
 $=10x+10$

(2) $(6x+7)-(2x+3)=6x+7-2x-3$
 $=6x-2x+7-3$
 $=4x+4$

(3) $(-6x-2)-(-3x-3)-(-5-2x)=-6x-2+3x+3+5+2x$
 $=-6x+3x+2x-2+3+5$
 $=-x+6$

(4) $(2x-y)+(-3x-3y)=2x-y-3x-3y$
 $=2x-3x-y-3y$
 $=-x-4y$

(5) $(2x-3y)-(6x-4y)=2x-3y-6x+4y$
 $=2x-6x-3y+4y$
 $=-4x+y$

(6) $(5x-2y+5)-(6x-4y)+(-7-3y)$
 $=5x-2y+5-6x+4y-7-3y$
 $=5x-6x-2y+4y-3y+5-7$
 $=-x-y-2$

類題 22

(1) $(2^2x-2y)-(-3)^2x-2y=4x-2y-9x-2y$
 $=-5x-4y$

(2) $x+5x^2-8x-7x^2=-2x^2-7x$

(3) $(7x-7x^2)-(6x^2-6x)=7x-7x^2-6x^2+6x$
 $=-13x^2+13x$

(4) $2a^2-(3a^2-6a+1)+(-3a-3)=2a^2-3a^2+6a-1-3a-3$
 $=-a^2+3a-4$

(5) $b-(a^2+6a+b)-(-b-a^2)=b-a^2-6a-b+b+a^2$
 $=-6a+b$

(6) $(2x^2-a)-(3a^2-6a+1)+2x^2$
 $=2x^2-a-3a^2+6a-1+2x^2$
 $=4x^2-3a^2+5a-1$

類題 23

(1) $\frac{1}{4}a+\frac{1}{2}a=\frac{1}{4}a+\frac{2}{4}a$
 $=\frac{3}{4}a$

(2) $\frac{2x}{2}-\frac{5}{6}x+\frac{x}{3}=\frac{6}{6}x-\frac{5}{6}x+\frac{2}{6}x$
 $=\frac{3}{6}x$
 $=\frac{1}{2}x$

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

(4) $\frac{1}{2}ab-\left(\frac{ab}{4}-\frac{1}{3}a\right)+\frac{a}{5}=\frac{1}{2}ab-\frac{ab}{4}+\frac{1}{3}a+\frac{a}{5}$
 $=\frac{1}{2}ab-\frac{1}{4}ab+\frac{1}{3}a+\frac{1}{5}a$
 $=\frac{2}{4}ab-\frac{1}{4}ab+\frac{5}{15}a+\frac{3}{15}a$
 $=\frac{1}{4}ab+\frac{8}{15}a$

 $\left(\frac{y-x}{6}, \frac{-x+y}{6}\right)$ でも正解

類題 24

(1) $5a \times 7 = 35a$

(2) $8 \times 6b = 48b$

(3) $3x \times (-2x) \times 5x = (-6x^2) \times 5x$
 $= -30x^3$

(4) $(-6x)^2 = (-6x) \times (-6x)$
 $= 36x^2$

(5) $2a \times 3b \times (-4a) \times 5a \times (-6b) = 2 \times 3 \times (-4) \times 5 \times (-6) \times a^3 b^2$
 $= 6 \times (-20) \times (-6) \times a^3 b^2$
 $= (-120) \times (-6) \times a^3 b^2$
 $= 720a^3 b^2$

(6) $3 \times 9x - y \times 9 = 27x - 9y$

類題 25

(1) $2(3x+1) + 3(6x+5) = 6x+2+18x+15$
 $= 24x+17$

(2) $5(6x+4) - 4(7x+6) = 30x+20-28x-24$
 $= 2x-4$

(3) $-2(-3x-3) - 3(-5-2x) = 6x+6+15+6x$
 $= 12x+21$

(4) $3(2x-y) + 4(-2x-y) = 6x-3y-8x-4y$
 $= -2x-7y$

(5) $7(3x-2y) - 2(6x-3y) = 21x-14y-12x+6y$
 $= 9x-8y$

(6) $2(5a-5b-5) - 7(2a+b-1) = 10a-10b-10-14a-7b+7$
 $= -4a-17b-3$

(7) $3(a-2b-2) - 2(a+6b-3)$
 $= 3a-6b-6-2a-12b+6$
 $= a-18b$

(8) $3(-2a^2-a+1) - 2(a^2-4a) = -6a^2-3a+3-2a^2+8a$
 $= -8a^2+5a+3$

※同類項の並べ替えをせずに計算できるようになることが重要

類題 26

(1) $\frac{1}{4}(3a-5b) - \frac{1}{2}(a-7b) = \frac{3}{4}a - \frac{5}{4}b - \frac{1}{2}a + \frac{7}{2}b$
 $= \frac{3}{4}a - \frac{2}{4}a - \frac{5}{4}b + \frac{14}{4}b$
 $= \frac{1}{4}a + \frac{9}{4}b$
 $\left(\frac{a+9b}{4} \text{でも正解}\right)$

(2) $2(4x-y+2) - \frac{1}{2}(6x-4y-8) = 8x-2y+4-3x+2y+4$
 $= 5x+8$

(3) $\frac{1}{3}(6m^2-2m-1) - \frac{1}{2}(2m^2+5m+8)$
 $= 2m^2 - \frac{2}{3}m - \frac{1}{3} - m^2 - \frac{5}{2}m - 4$
 $= 2m^2 - \frac{4}{6}m - \frac{1}{3} - m^2 - \frac{15}{6}m - \frac{12}{3}$
 $= m^2 - \frac{19}{6}m - \frac{13}{3}$
 $\left(\frac{6m^2-19m-26}{6} \text{でも正解}\right)$

(4) $3\{(2x-3x)^2+8x\} - \frac{1}{3}(x-x^2) = 3\{(-x)^2+8x\} - \frac{1}{3}x + \frac{1}{3}x^2$
 $= 3(x^2+8x) - \frac{1}{3}x + \frac{1}{3}x^2$
 $= 3x^2+24x - \frac{1}{3}x + \frac{1}{3}x^2$
 $= \frac{9}{3}x^2 + \frac{72}{3}x - \frac{1}{3}x + \frac{1}{3}x^2$
 $= \frac{10}{3}x^2 + \frac{71}{3}x$
 $\left(\frac{10x^2+71x}{3} \text{でも正解}\right)$

類題 27

(1) $7a \div 3a = \frac{7a}{3a}$
 $= \frac{7}{3}$

(2) $-9 \div 6a = \frac{-9}{6a}$
 $= -\frac{3}{2a}$

(3) $21x^5y^4 \div 49x^3y^2 = \frac{21x^5y^4}{49x^3y^2}$
 $= \frac{3}{7}x^2y^2$

(4) $88a^{55}b^{102} \div (-8a^{53}b^{99}) = \frac{88a^{55}b^{102}}{-8a^{53}b^{99}}$
 $= -11a^2b^3$

類題 27

$$\begin{aligned}
 (5) \quad & 42x^5y^4 \div 56x^3y^2 \div 3xy \\
 &= 42x^5y^4 \times \frac{1}{56x^3y^2} \times \frac{1}{3xy} \\
 &= \frac{42x^5y^4}{56x^3y^2 \times 3xy} \\
 &= \frac{42x^5y^4}{168x^4y^3} \\
 &= \frac{1}{4}xy \quad \left(\frac{xy}{4} \text{ でも正解} \right)
 \end{aligned}$$

$$\begin{aligned}
 (6) \quad & (-2ab)^3 \div (-3ab^6) \times (-12a^2b) = -8a^3b^3 \times \frac{1}{-3ab^6} \times (-12a^2b) \\
 &= \frac{-8a^3b^3 \times (-12a^2b)}{-3ab^6} \\
 &= \frac{96a^5b^4}{-3ab^6} \\
 &= -\frac{32a^4}{b^2}
 \end{aligned}$$

類題 28

$$\begin{aligned}
 (1) \quad & \frac{2x-1}{3} + \frac{x}{2} = \frac{2(2x-1)+3x}{6} \\
 &= \frac{4x-2+3x}{6} \\
 &= \frac{7x-2}{6}
 \end{aligned}$$

$$\begin{aligned}
 (2) \quad & \frac{3x-5}{3} - \frac{2x-7}{2} = \frac{2(3x-5)-3(2x-7)}{6} \\
 &= \frac{6x-10-6x+21}{6} \\
 &= \frac{11}{6}
 \end{aligned}$$

$$\begin{aligned}
 (3) \quad & \frac{6x-2y}{3} - (2x-5y) = \frac{6x-2y-3(2x-5y)}{3} \\
 &= \frac{6x-2y-6x+15y}{3} \\
 &= \frac{13}{3}y
 \end{aligned}$$

$$\begin{aligned}
 (4) \quad & \frac{x+3y}{5} - \frac{x-y}{2} = \frac{2(x+3y)-5(x-y)}{10} \\
 &= \frac{2x+6y-5x+5y}{10} \\
 &= \frac{-3x+11y}{10}
 \end{aligned}$$

$$\begin{aligned}
 (5) \quad & \frac{x+2y}{3} - \frac{x-3y}{2} = \frac{2(x+2y)-3(x-3y)}{6} \\
 &= \frac{2x+4y-3x+9y}{6} \\
 &= \frac{-x+13y}{6}
 \end{aligned}$$

$$\begin{aligned}
 (6) \quad & \frac{5a+4b}{6} - \frac{3a+2b}{5} = \frac{5(5a+4b)-6(3a+2b)}{30} \\
 &= \frac{25a+20b-18a-12b}{30} \\
 &= \frac{7a+8b}{30}
 \end{aligned}$$

$$\begin{aligned}
 (7) \quad & 5a-2b - \frac{3a-4b}{5} = \frac{5(5a-2b)-(3a-4b)}{5} \\
 &= \frac{25a-10b-3a+4b}{5} \\
 &= \frac{22a-6b}{5}
 \end{aligned}$$

$$\begin{aligned}
 (8) \quad & \frac{3a+5b}{4} - \frac{2a-b}{3} - 2b = \frac{3(3a+5b)-4(2a-b)-12 \times 2b}{12} \\
 &= \frac{9a+15b-8a+4b-24b}{12} \\
 &= \frac{a-5b}{12}
 \end{aligned}$$

類題 29

$$\begin{aligned}
 (1) \quad & \frac{x-6y}{6} + \frac{x-3y}{12} = \frac{2(x-6y)+x-3y}{12} \\
 &= \frac{2x-12y+x-3y}{12} \\
 &= \frac{3x-15y}{12} \\
 &= \frac{x-5y}{4}
 \end{aligned}$$

$$\begin{aligned}
 (2) \quad & \frac{a+b}{2} + \frac{a-b}{6} = \frac{3(a+b)+a-b}{6} \\
 &= \frac{3a+3b+a-b}{6} \\
 &= \frac{4a+2b}{6} \\
 &= \frac{2a+b}{3}
 \end{aligned}$$

$$\begin{aligned}
 (3) \quad & \frac{5m+3n}{6} - \frac{m-5n}{2} = \frac{5m+3n-3(m-5n)}{6} \\
 &= \frac{5m+3n-3m+15n}{6} \\
 &= \frac{2m+18n}{6} \\
 &= \frac{m+9n}{3}
 \end{aligned}$$

$$\begin{aligned}
 (4) \quad & \frac{x+y}{18} - \frac{3x-y}{2} = \frac{x+y-9(3x-y)}{18} \\
 &= \frac{x+y-27x+9y}{18} \\
 &= \frac{-26x+10y}{18} \\
 &= \frac{-13x+5y}{9}
 \end{aligned}$$

類題 30

$$\begin{aligned}(1) \quad 3x &= 5x + 18 \\ 3x - 5x &= 18 \\ -2x &= 18 \\ x &= -9\end{aligned}$$

$$\begin{aligned}(3) \quad 2a + 3 &= 1 \\ 2a &= 1 - 3 \\ 2a &= -2 \\ a &= -1\end{aligned}$$

$$\begin{aligned}(5) \quad 7x &= 2x + 17 \\ 7x - 2x &= 17 \\ 5x &= 17 \\ x &= \frac{17}{5}\end{aligned}$$

$$\begin{aligned}(2) \quad -x &= 5x - 24 \\ -x - 5x &= -24 \\ -6x &= -24 \\ x &= 4\end{aligned}$$

$$\begin{aligned}(4) \quad -3a + 7 &= 25 \\ -3a &= 25 - 7 \\ -3a &= 18 \\ a &= -6\end{aligned}$$

$$\begin{aligned}(6) \quad -6x - 24 &= 9 \\ -6x &= 9 + 24 \\ -6x &= 33 \\ x &= -\frac{11}{2}\end{aligned}$$

類題 31

$$\begin{aligned}(1) \quad 5x + 2 &= 2x - 7 \\ 5x - 2x &= -7 - 2 \\ 3x &= -9 \\ x &= -3\end{aligned}$$

$$\begin{aligned}(3) \quad 2x + 1 &= x - 11 \\ 2x - x &= -1 - 11 \\ x &= -12\end{aligned}$$

$$\begin{aligned}(5) \quad 6x - 2 &= 8x - 13 \\ 6x - 8x &= -13 + 2 \\ -2x &= -11 \\ x &= \frac{11}{2}\end{aligned}$$

$$\begin{aligned}(2) \quad x + 12 &= 3x + 6 \\ x - 3x &= 6 - 12 \\ -2x &= -6 \\ x &= 3\end{aligned}$$

$$\begin{aligned}(4) \quad x - 4 &= 3x + 6 \\ x - 3x &= 6 + 4 \\ -2x &= 10 \\ x &= -5\end{aligned}$$

$$\begin{aligned}(6) \quad 2 - 3x &= 4x - 6 \\ -3x - 4x &= -6 - 2 \\ -7x &= -8 \\ x &= \frac{8}{7}\end{aligned}$$

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$$\begin{aligned}(1) \quad 2(x+1) &= 3x+4 \\ 2x+2 &= 3x+4 \\ -x &= 2 \\ x &= -2\end{aligned}$$

$$\begin{aligned}(3) \quad 2(x+4) &= 5(x+1) \\ 2x+8 &= 5x+5 \\ -3x &= -3 \\ x &= 1\end{aligned}$$

$$\begin{aligned}(5) \quad 4(x-3) &= 2x-11 \\ 4x-12 &= 2x-11 \\ 2x &= 1 \\ x &= \frac{1}{2}\end{aligned}$$

$$\begin{aligned}(2) \quad 3(x-3) &= x-11 \\ 3x-9 &= x-11 \\ 2x &= -2 \\ x &= -1\end{aligned}$$

$$\begin{aligned}(4) \quad 4(2x+7) &= 4(x-4) \\ 8x+28 &= 4x-16 \\ 4x &= -44 \\ x &= -11\end{aligned}$$

$$\begin{aligned}(6) \quad 3(-x+7) &= -7(x+3) \\ -3x+21 &= -7x-21 \\ 4x &= -42 \\ x &= -\frac{42}{4} \\ x &= -\frac{21}{2}\end{aligned}$$

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$$\begin{aligned}(1) \quad 9 - 2(x-4) &= 3(x+4) - 5 \\ 9 - 2x + 8 &= 3x + 12 - 5 \\ -2x - 3x &= 7 - 17 \\ -5x &= -10 \\ x &= 2\end{aligned}$$

$$\begin{aligned}(3) \quad 5(x+4) - 2(2x-4) &= 3x-6 \\ 5x+20-4x+8 &= 3x-6 \\ x-3x &= -6-28 \\ -2x &= -34 \\ x &= 17\end{aligned}$$

$$\begin{aligned}(2) \quad 3(x-1) + 5 &= 11 + 2(x-4) \\ 3x-3+5 &= 11+2x-8 \\ x &= 3-2 \\ x &= 1\end{aligned}$$

$$\begin{aligned}(4) \quad 2^2(3x+1) + 5^2 &= 1 - 2(x-4) \\ 4(3x+1) + 25 &= 1 - 2x + 8 \\ 12x + 4 + 25 &= -2x + 9 \\ 12x + 2x &= 9 - 29 \\ 14x &= -20 \\ x &= -\frac{20}{14} \\ x &= -\frac{10}{7}\end{aligned}$$

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$$\begin{aligned}(1) \quad & 0.1x + 0.3 = 1.8 \\ & 10(0.1x + 0.3) = 10 \times 1.8 \\ & x + 3 = 18 \\ & x = 15\end{aligned}$$

$$\begin{aligned}(2) \quad & 0.1x - 0.3 = 0.2x + 1.2 \\ & 10(0.1x - 0.3) = 10(0.2x + 1.2) \\ & x - 3 = 2x + 12 \\ & -x = 15 \\ & x = -15\end{aligned}$$

$$\begin{aligned}(3) \quad & 0.2a + 1 = -0.3a - 1.5 \\ & 10(0.2a + 1) = 10(-0.3a - 1.5) \\ & 2a + 10 = -3a - 15 \\ & 5a = -25 \\ & a = -5\end{aligned}$$

$$\begin{aligned}(4) \quad & 1.2a + 1.2 = 0.7a - 1.3 \\ & 10(1.2a + 1.2) = 10(0.7a - 1.3) \\ & 12a + 12 = 7a - 13 \\ & 5a = -25 \\ & a = -5\end{aligned}$$

$$\begin{aligned}(5) \quad & 0.1x + 0.28 = 0.04x - 0.08 \\ & 100(0.1x + 0.28) = 100(0.04x - 0.08) \\ & 10x + 28 = 4x - 8 \\ & 6x = -36 \\ & x = -6\end{aligned}$$

$$\begin{aligned}(6) \quad & 0.05x + 1 = 0.2x - 0.05 \\ & 100(0.05x + 1) = 100(0.2x - 0.05) \\ & 5x + 100 = 20x - 5 \\ & -15x = -105 \\ & x = 7\end{aligned}$$

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$$\begin{aligned}(1) \quad & \frac{1}{2}x - 3 = 12 \\ & 2\left(\frac{1}{2}x - 3\right) = 2 \times 12 \\ & x - 6 = 24 \\ & x = 30\end{aligned}$$

$$\begin{aligned}(2) \quad & \frac{4}{3}x - \frac{2}{3} = 2 \\ & 3\left(\frac{4}{3}x - \frac{2}{3}\right) = 3 \times 2 \\ & 4x - 2 = 6 \\ & 4x = 8 \\ & x = 2\end{aligned}$$

$$\begin{aligned}(3) \quad & \frac{1}{2}x - 1 = \frac{1}{3}x + \frac{5}{2} \\ & 6\left(\frac{1}{2}x - 1\right) = 6\left(\frac{1}{3}x + \frac{5}{2}\right) \\ & 3x - 6 = 2x + 15 \\ & x = 21\end{aligned}$$

$$\begin{aligned}(4) \quad & \frac{2}{3}x + \frac{1}{4} = \frac{1}{2}x - 1 \\ & 12\left(\frac{2}{3}x + \frac{1}{4}\right) = 12\left(\frac{1}{2}x - 1\right) \\ & 8x + 3 = 6x - 12 \\ & 2x = -15 \\ & x = -\frac{15}{2}\end{aligned}$$

$$\begin{aligned}(5) \quad & \frac{2}{3}x + \frac{9}{2} = \frac{x}{2} + 1 \\ & 6\left(\frac{2}{3}x + \frac{9}{2}\right) = 6\left(\frac{x}{2} + 1\right) \\ & 4x + 27 = 3x + 6 \\ & x = -21\end{aligned}$$

$$\begin{aligned}(6) \quad & \frac{3}{4}x + 3 = \frac{1}{6}x - 4 \\ & 12\left(\frac{3}{4}x + 3\right) = 12\left(\frac{1}{6}x - 4\right) \\ & 9x + 36 = 2x - 48 \\ & 7x = -84 \\ & x = -12\end{aligned}$$

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$$\begin{aligned}(1) \quad & \frac{a-5}{3} = \frac{a+3}{7} \\ & 21\left(\frac{a-5}{3}\right) = 21\left(\frac{a+3}{7}\right) \\ & 7(a-5) = 3(a+3) \\ & 7a - 35 = 3a + 9 \\ & 4a = 44 \\ & a = 11\end{aligned}$$

$$\begin{aligned}(2) \quad & \frac{x-1}{4} = \frac{2x+3}{5} \\ & 20\left(\frac{x-1}{4}\right) = 20\left(\frac{2x+3}{5}\right) \\ & 5(x-1) = 4(2x+3) \\ & 5x - 5 = 8x + 12 \\ & -3x = 17 \\ & x = -\frac{17}{3}\end{aligned}$$

$$\begin{aligned}(3) \quad & x - \frac{x+3}{2} = 2 \\ & 2\left(x - \frac{x+3}{2}\right) = 2 \times 2 \\ & 2x - (x+3) = 4 \\ & 2x - x - 3 = 4 \\ & x = 7\end{aligned}$$

$$\begin{aligned}(4) \quad & \frac{2x-1}{6} = \frac{x+1}{4} + 2 \\ & 12\left(\frac{2x-1}{6}\right) = 12\left(\frac{x+1}{4} + 2\right) \\ & 2(2x-1) = 3(x+1) + 2 \times 12 \\ & 4x - 2 = 3x + 3 + 24 \\ & x = 29\end{aligned}$$

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$$\begin{aligned}(1) \quad & 500(x-6) = 200x \\ & 500(x-6) \div 100 = 200x \div 100 \\ & 5x - 30 = 2x \\ & 3x = 30 \\ & x = 10\end{aligned}$$

$$\begin{aligned}(2) \quad & 0.8(x-0.4) = 0.2(0.2-x) \\ & 0.8x - 0.32 = 0.04 - 0.2x \\ & 100(0.8x - 0.32) = 100(0.04 - 0.2x) \\ & 80x - 32 = 4 - 20x \\ & 100x = 36 \\ & x = \frac{36}{100} \\ & x = \frac{9}{25}\end{aligned}$$

$$\begin{aligned}(3) \quad & 0.3(0.1x-0.2) = 0.1\{2(x+2.1) - (x-0.1)\} \\ & 0.03x - 0.06 = 0.1(2x + 4.2 - x + 0.1) \\ & 0.03x - 0.06 = 0.1(x + 4.3) \\ & 0.03x - 0.06 = 0.1x + 0.43 \\ & 100(0.03x - 0.06) = 100(0.1x + 0.43) \\ & 3x - 6 = 10x + 43 \\ & -7x = 49 \\ & x = -7\end{aligned}$$

($x=0.36$ でも正解)

23p

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(1) $(x, y) = (-1, 2)$

(3) $(x, y) = (2, -2)$

(5) $(x, y) = (3, -2)$

(2) $(x, y) = (3, 1)$

(4) $(x, y) = (-4, -9)$

(6) $(x, y) = (-1, 1)$

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(1) $(x, y) = (2, 3)$

(3) $(x, y) = (3, 1)$

(5) $(x, y) = (-5, 4)$

(2) $(x, y) = (-1, 1)$

(4) $(x, y) = (5, 1)$

(6) $(x, y) = (3, -2)$

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(1) $(x, y) = (7, -8)$

(2) $(x, y) = (5, 4)$

25p

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(1) $(x, y) = (2, 5)$

(3) $(x, y) = (-1, 5)$

(5) $(x, y) = (11, -15)$

(2) $(x, y) = (3, 2)$

(4) $(x, y) = (-5, -4)$

(6) $(x, y) = (-5, -8)$

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(1) $(x, y) = (-1, 1)$

(3) $(x, y) = (3, 4)$

(5) $(x, y) = (-2, 3)$

(2) $(x, y) = (4, 1)$

(4) $(x, y) = (7, 8)$

(6) $(x, y) = (-5, -4)$

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(1) $(x, y) = (4, 2)$

(2) $(x, y) = (2, 3)$

27p

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(1) $(x, y) = (3, 4)$

(3) $(x, y) = (21, -1)$

(5) $(x, y) = (2, 1)$

(2) $(x, y) = (-5, 4)$

(4) $(x, y) = (2, -1)$

(6) $(x, y) = (3, 0)$

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(1) $(x, y) = (10, -6)$

(3) $(x, y) = (3, 4)$

(5) $(x, y) = (1, 2)$

(2) $(x, y) = (-1, -3)$

(4) $(x, y) = (4, -5)$

(6) $(x, y) = (-9, 6)$

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(1) $(x, y) = (1, -3)$

(3) $(x, y) = (7, -3)$

(2) $(x, y) = (-5, 7)$

(4) $(x, y) = (11, 8)$