

式の値 (解答と解説)

1 [解答] (1) -1 (2) -8 (3) -12 (4) 21

- (1) $3x + 2y = 3 \times (-3) + 2 \times 4$
 $= -9 + 8 = -1$
- (2) $-4x - 5y = -4 \times (-3) - 5 \times 4$
 $= 12 - 20 = -8$
- (3) $xy = (-3) \times 4 = -12$
- (4) $x^2 - xy = (-3)^2 - (-3) \times 4$
 $= 9 - (-12) = 9 + 12 = 21$

2 [解答] (1) -6 (2) -3 (3) 4 (4) 1

- (1) $2(a - 3b) + (a + 6b) = 2a - 6b + a + 6b = 3a$
 $a = -2$ を $3a$ に代入すると
 $3 \times (-2) = -6$
- (2) $3(2a - 3b) - 2(3a - 4b) = 6a - 9b - 6a + 8b = -b$
 $b = 3$ を $-b$ に代入すると
 $(-1) \times 3 = -3$
- (3) $6a^2b \div (-3ab) = -\frac{6a^2b}{3ab} = -2a$
 $a = -2$ を $-2a$ に代入すると
 $-2 \times (-2) = 4$
- (4) $(-2ab^2) \div (-6ab) = \frac{2ab^2}{6ab} = \frac{b}{3}$
 $b = 3$ を $\frac{b}{3}$ に代入すると
 $\frac{3}{3} = 1$

3 [解答] (1) -50 (2) 55 (3) $\frac{18}{7}$ (4) 147

- (1) $(2x - y) - (6x - 3y) = 2x - y - 6x + 3y$
 $= -4x + 2y$
 $x = 9, y = -7$ を $-4x + 2y$ に代入すると
 $-4 \times 9 + 2 \times (-7) = -50$

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

$x = 9, y = -7$ を $3x - 4y$ に代入すると
 $3 \times 9 - 4 \times (-7) = 55$

(3) $6xy \div (-3y^2) = -\frac{6xy}{3y^2} = -\frac{2x}{y}$

$x = 9, y = -7$ を $-\frac{2x}{y}$ に代入すると

$$-\frac{2 \times 9}{-7} = \frac{18}{7}$$

(4) $12y \times (-xy^2) \div (-4xy) = \frac{12y \times xy^2}{4xy} = 3y^2$

$y = -7$ を $3y^2$ に代入すると

$$3y^2 = 3 \times (-7)^2 = 147$$

4 [解答] (1) 18 (2) -204 (3) -30 (4) 96

(1) $(8a - 9b) - (9a - 6b) = 8a - 9b - 9a + 6b = -a - 3b$
 $a = 6, b = -8$ を $-a - 3b$ に代入すると
 $-6 - 3 \times (-8) = 18$

(2) $3(2a + 5b) - 4(a - 3b) = 6a + 15b - 4a + 12b = 2a + 27b$
 $a = 6, b = -8$ を $2a + 27b$ に代入すると
 $2 \times 6 + 27 \times (-8) = -204$

(3) $15a^2b^2 \div (-3ab^2) = -\frac{15a^2b^2}{3ab^2} = -5a$

$a = 6$ を $-5a$ に代入すると

$$-5 \times 6 = -30$$

(4) $(-2ab)^2 \times 4a^4b \div (-8a^5b^2) = 4a^2b^2 \times 4a^4b \div (-8a^5b^2)$
 $= -\frac{4a^2b^2 \times 4a^4b}{8a^5b^2} = -2ab$

$a = 6, b = -8$ を $-2ab$ に代入すると

$$-2 \times 6 \times (-8) = 96$$