

BLU 1 E, 22.9.2016

$$\begin{aligned} \textcircled{1} \quad a) & -3 + (2 - \{-7 - (-2 + 5)\}) \\ & = -3 + (2 - (-7 - 3)) \\ & = -3 + (2 - (-10)) \\ & = -3 + 12 = \underline{\underline{9}} \end{aligned}$$

$$\begin{aligned} b) & -3y + (-2x - 5y - (-5x - (-2x + 3y))) \\ & = -3y + (-2x - 5y - (-5x + 2x - 3y)) \\ & = -3y + (-2x - 5y + 5x - 2x + 3y) \\ & = \underline{-3y} - \underline{2x} - 5y + \underline{5x} - \underline{2x} + 3y \\ & = \underline{\underline{x - 5y}} \end{aligned}$$

$$\textcircled{2} \text{ a) } -x^3 \cdot (-x)^3 = -x^3 \cdot (-x^3) = \underline{\underline{x^6}}$$

$$\text{b) } -(-a)^2 = -(-a)(-a) = \underline{\underline{-a^2}}$$

$$\text{c) } -s^2 \cdot (-s^2)(-s)^2 = (-s^2)^2 \cdot s^2 = \underline{\underline{s^6}}$$

$$\text{d) } (-s)^{23} = \underline{\underline{-s^{23}}}$$

$$\textcircled{3} (2ab + 3c^2)^2 =$$

$$(2ab)^2 + 2 \cdot 2ab \cdot 3c^2 + (3c^2)^2 =$$

$$\underline{\underline{4a^2b^2 + 12abc^2 + 9c^4}}$$

④

$$a) 2a^2 + 8a + 8 = 2(a^2 + 4a + 4) = \underline{\underline{2(a+2)^2}}$$

$$b) a^3bc + 2a^2b^2c + ab^3c = abc(a^2 + 2ab + b^2) = \underline{\underline{abc(a+b)^2}}$$

$$c) 12x^3 - 27xy^2 = 3x(4x^2 - 9y^2) = \underline{\underline{3x(2x+3y)(2x-3y)}}$$

$$d) x^4 + x^3 + x^2 + x = x(x^3 + x^2 + x + 1) \\ = x(x^2(x+1) + (x+1)) = \underline{\underline{x(x+1)(x^2+1)}}$$

$$e) 3x^2y - 12xy + 12y = 3y(x^2 - 4x + 4) = \underline{\underline{3y(x-2)^2}}$$

$$f) a^2 + 3a - 10 = \underline{\underline{(a+5)(a-2)}}$$

$$g) a^3b^2 + ab^4 = ab^2(a^2 + b^2) = \underline{\underline{ab^2(a^2 + b^2)}}$$

$$h) 2x^2 - 18x + 28 = 2(x^2 - 9x + 14) = \underline{\underline{2(x-7)(x-2)}}$$

$$i) 6xy - 10x + 9y - 15 =$$

~~3(2xy)~~

$$2x(3y-5) + 3(3y-5) = \underline{\underline{(2x+3)(3y-5)}}$$

$$j) x^2 - 6xy^2 + 9y^4 = \underline{\underline{(x-3y^2)^2}}$$

$$(5) \quad (x+5)(x-3) = 65 \quad (2)$$

$$x^2 + 5x - 3x - 15 = 65$$

$$x^2 + 2x - 80 = 0 \quad (1/2)$$

$$(x+10)(x-8) = 0$$

$$\swarrow$$
$$x+10=0$$

$$\searrow$$
$$x-8=0$$

$$x_1 = -10$$

$$x_2 = 8$$

$$\text{Test: } (8+5)(8-3) = 13 \cdot 5 = 65 \quad \checkmark$$

$$(-10+5)(-10-8) = -5 \cdot (-18) = 65 \quad \checkmark$$

$$\mathcal{L} = \{-10; 8\}$$

$$(6) \quad \frac{a-b}{b-a} = \frac{(a-b)}{(-1)(a-b)} = \frac{1}{-1} = \underline{\underline{-1}}$$