

I. 실수와 그 계산

8쪽 **1** (1) 16, 16, 4, -4 (2) $\frac{1}{49} \cdot \frac{1}{49} \cdot \frac{1}{7} \cdot -\frac{1}{7}$ **2** (1) 1, -1 (2) 6, -6 (3) 11, -11(4) $\frac{1}{9} \cdot -\frac{1}{9}$ (5) $-\frac{3}{10} \cdot -\frac{3}{10}$ (6) 0.8, -0.8**3** (1) 4, 2, -2 (2) 25, 5, -5 (3) $\frac{1}{9} \cdot \frac{1}{3} \cdot -\frac{1}{3}$

(4) 0.01, 0.1, -0.1

4 (1) ○ (2) ○ (3) ○ (4) × (5) ×**9쪽** **1** (1) $\pm\sqrt{3}$ (2) $\pm\sqrt{10}$ (3) $\pm\sqrt{21}$ (4) $\pm\sqrt{\frac{1}{5}}$ (5) $\pm\sqrt{\frac{3}{10}}$ (6) $\pm\sqrt{0.7}$ **2** (1) $\sqrt{7}$ (2) $-\sqrt{7}$ (3) $\pm\sqrt{7}$ (4) $\sqrt{7}$ **3** (1) 5 (2) 49, -7 (3) 144, ± 12 (4) $\frac{16}{9}$, 음, $-\frac{4}{3}$ (5) 0.09, 양, 0.3 (6) 1.21, 음, -1.1**4** (1) 9, 3 (2) 16, -4 (3) 8, $\pm\sqrt{8}$ **10쪽** **1** (1) 3, 3, 3 (2) 3, -3 (3) 3, -3**2** (1) 5 (2) $\frac{2}{3}$ (3) 0.2 (4) -13 (5) -21 (6) $-\frac{1}{5}$

(7) -0.06

3 (1) 6 (2) 8 (3) $\frac{1}{3}$ (4) 0.2 (5) -11 (6) $-\frac{3}{5}$ (7) 6

(8) 0.4 (9) -13 (10) -1.44

11쪽 **1** (1) 2, 5 (2) 11 (3) -2 (4) 12 (5) 75**2** (1) 4, 8, 4, 4 (2) 5 (3) -7**3** (1) 2, 6, 8, 6, 4 (2) 0 (3) -1 (4) 3, $\frac{3}{2}$, 6, 3, $\frac{2}{3}$, 6, 2, 4

(5) -10 (6) -51

12~13쪽 **1** (1) $>$, $2a$ (2) $<$, $-2a$, $2a$ (3) $>$, $3a$, $-3a$ (4) $<$, $-3a$, $-3a$ **2** (1) $<$, $4a$, $-4a$ (2) $>$, $-4a$ (3) $<$, $5a$, $5a$ (4) $>$, $-5a$, $5a$ **3** (1) $5a$ (2) $-7a$ (3) $6a$ (4) $-8a$ (5) $-\frac{1}{2}a$ (6) $\frac{3}{5}a$ (7) $-0.6a$ (8) $1.5a$ **4** (1) $2a$ (2) $-2a$ (3) $-10a$ (4) $-11a$ (5) $-a$ (6) $1.2a$ **14~15쪽** **1** (1) $<$, $<$ (2) $<$ (3) $>$ (4) $<$, $<$ (5) $>$ (6) $<$ (7) $>$, $>$ (8) $<$ (9) $>$ **2** (1) $<$, $<$, $>$ (2) $>$ (3) $<$ (4) $>$ (5) $<$ (6) $<$ (7) $>$ (8) $<$ **3** (1) 9, $<$ (2) $>$ (3) $<$ (4) $>$ (5) 16, $<$, $>$ (6) $<$ (7) $>$ (8) $>$ **4** (1) 36, $\sqrt{5}$, $\sqrt{7}$, 6 (2) 81, $\sqrt{80}$, 9, $\sqrt{82}$ (3) 2, 4, $\frac{1}{2}$, $\sqrt{\frac{1}{2}}$, $\sqrt{\frac{3}{4}}$ (4) 4, -2, $-\sqrt{0.2}$, $\sqrt{0.1}$ (5) 9, 4, $-\sqrt{\frac{1}{3}}$, $-\frac{1}{2}$, $-\frac{1}{3}$ **16쪽** **1** (1) 유 (2) 유 (3) 무 (4) 무 (5) 유 (6) 유

(7) 무 (8) 유 (9) 무

2 (1) × (2) × (3) ○ (4) ○ (5) × (6) ×**17~18쪽** **1** (1) 2, $\sqrt{20}$ (2) $\sqrt{34}$ cm (3) $\sqrt{74}$ cm(4) $\sqrt{52}$ cm (5) $\sqrt{136}$ cm**2** (1) 1, $\sqrt{5}$, $\sqrt{5}$, $-\sqrt{5}$, $\sqrt{5}$, $\sqrt{5}$ (2) 1, $\sqrt{2}$, $\sqrt{2}$, $2-\sqrt{2}$, $\sqrt{2}$, $2+\sqrt{2}$ **3** (1) $-\sqrt{2}$, $\sqrt{2}$ (2) $1-\sqrt{2}$, $1+\sqrt{2}$ (3) $-2-\sqrt{2}$, $-2+\sqrt{2}$ (4) $-\sqrt{5}$, $\sqrt{5}$ (5) $2-\sqrt{5}$, $2+\sqrt{5}$ (6) $-1-\sqrt{10}$, $-1+\sqrt{10}$ **4** (1) D (2) B**5** (1) $2+\sqrt{6}$ (2) $3-\sqrt{10}$ (3) $-5+\sqrt{13}$ **19쪽** **1** (1) × (2) × (3) ○ (4) × (5) ×

(6) × (7) ○ (8) ○ (9) ○ (10) × (11) ×

20쪽 **1** (1) 2, 4, $>$, $>$, $>$ (2) 3, 9, $<$, $<$, $<$ (3) 3, 9, $>$, $>$, $>$ **2** (1) $>$ (2) $<$ (3) $>$ (4) $<$ (5) $<$ (6) $>$ (7) $<$ (8) $<$ **21쪽** **1** (1) 16, 2, 4.025 (2) 4.159 (3) 4.359

(4) 4.483 (5) 4.626

2 (1) 5.6, 4, 5.64, 5.64 (2) 5.82 (3) 5.93 (4) 6 (5) 16, 6**22쪽** **1** (1) 7, 21 (2) $\sqrt{30}$ (3) $\sqrt{70}$ (4) $\frac{27}{5}$, 9, 3(5) 2 (6) $\sqrt{6}$ (7) 4, 5, -12, 10 (8) $-15\sqrt{14}$ (9) $-2\sqrt{10}$ **2** (1) 5, 30 (2) $\sqrt{110}$ (3) $\sqrt{30}$ (4) $-15\sqrt{42}$ (5) $-12\sqrt{30}$ (6) -21 (7) $12\sqrt{5}$ **23쪽** **1** (1) 30, 30, 6 (2) 3 (3) $-\sqrt{5}$ (4) 9, 6, 3, 2(5) 6 (6) $6\sqrt{7}$ (7) 10, 10, 4, 2 (8) $\sqrt{6}$ (9) $-\sqrt{35}$ **2** (1) 6, 8, 4, 2 (2) $\sqrt{6}$ (3) $\sqrt{10}$ (4) 12 (5) $12\sqrt{21}$ (6) $-2\sqrt{6}$ (7) $-5\sqrt{3}$ **24쪽** **1** (1) 2, 2, 2 (2) $3\sqrt{3}$ (3) $-3\sqrt{5}$ (4) 3, 3, 3(5) $\frac{\sqrt{2}}{5}$ (6) $-\frac{\sqrt{5}}{9}$ (7) 10, 10, 10 (8) $\frac{\sqrt{17}}{10}$ (9) $-\frac{\sqrt{21}}{10}$ **2** (1) 2, 2, 20 (2) $\sqrt{18}$ (3) $\sqrt{75}$ (4) 4, 4, 80 (5) $-\sqrt{90}$ (6) $-\sqrt{98}$ (7) 2, 2, 4 (8) $\sqrt{\frac{7}{9}}$ (9) $-\sqrt{\frac{15}{16}}$ **25쪽** **1** (1) 100, 10, 10, 14.14 (2) 100, 10, 10, 44.72

(3) 2, 2, 1.414, 141.4 (4) 2, 20, 20, 4.472, 0.4472

(5) 100, 10, 10, 0.1414 (6) 2, 20, 20, 4.472, 0.04472

2 (1) 16.28 (2) 51.48 (3) 162.8

(4) 0.5148 (5) 0.1628 (6) 0.05148

26쪽 **1** (1) 2, 2, 2, $3\sqrt{2}$ (2) $\frac{\sqrt{10}}{5}$ (3) $\frac{\sqrt{30}}{6}$ (4) $-\frac{\sqrt{42}}{7}$ (5) 5, 5, 5, $\frac{\sqrt{5}}{20}$ (6) $\frac{3\sqrt{3}}{2}$ (7) $\frac{\sqrt{42}}{18}$ (8) $\frac{2\sqrt{6}}{5}$ **2** (1) 2, 5, 5, $\frac{3\sqrt{5}}{10}$ (2) $\sqrt{3}$ (3) $\frac{5\sqrt{3}}{9}$ (4) $-\frac{5\sqrt{2}}{4}$ (5) $\frac{\sqrt{10}}{4}$ (6) $\frac{\sqrt{21}}{12}$ (7) $\frac{\sqrt{30}}{2}$ **27쪽** **집중 연습****1** (1) $3\sqrt{2}$ (2) $4\sqrt{2}$ (3) $-6\sqrt{3}$ (4) $\frac{\sqrt{5}}{6}$ (5) $-\frac{\sqrt{7}}{9}$ (6) $\frac{\sqrt{35}}{10}$ **2** (1) $\sqrt{48}$ (2) $-\sqrt{63}$ (3) $\sqrt{\frac{5}{9}}$ (4) $\sqrt{\frac{7}{25}}$ (5) $\sqrt{\frac{20}{9}}$ (6) $-\sqrt{\frac{96}{25}}$ **3** (1) $\frac{\sqrt{5}}{5}$ (2) $\frac{3\sqrt{10}}{10}$ (3) $-\frac{2\sqrt{6}}{3}$ (4) $\frac{\sqrt{15}}{5}$ (5) $\frac{\sqrt{35}}{7}$ (6) $\frac{\sqrt{26}}{13}$ (7) $-\frac{\sqrt{42}}{3}$ (8) $\frac{2\sqrt{3}}{3}$ (9) $\frac{3\sqrt{5}}{5}$ (10) $-\frac{2\sqrt{6}}{3}$ (11) $\frac{\sqrt{15}}{12}$ (12) $\frac{\sqrt{78}}{18}$ **28쪽** **1** (1) 1, $4\sqrt{2}$ (2) $11\sqrt{5}$ (3) $2\sqrt{3}$ (4) 3, $2\sqrt{6}$ (5) $5\sqrt{5}$ (6) $-2\sqrt{11}$ (7) 1, $3\sqrt{3}$ (8) $4\sqrt{5}$ (9) $\sqrt{10}$ **2** (1) 3, 4, $2\sqrt{6}-4\sqrt{7}$ (2) $4\sqrt{3}+7\sqrt{10}$ (3) $3\sqrt{5}+\sqrt{7}$ (4) $-9\sqrt{5}+3\sqrt{11}$ (5) $-\frac{11}{12}\sqrt{6}+2\sqrt{13}$ **29쪽** **1** (1) 2, 4, $6\sqrt{3}$ (2) $5\sqrt{7}$ (3) $-\sqrt{5}$ (4) $2\sqrt{3}$ (5) $-2\sqrt{2}$ (6) $11\sqrt{5}$ (7) $9\sqrt{2}-6\sqrt{3}$ **2** (1) 2, 2, 5, $9\sqrt{2}$ (2) $2\sqrt{3}$ (3) $6\sqrt{2}$ (4) $\frac{20\sqrt{6}}{3}$ (5) $2\sqrt{3}$ (6) $-10\sqrt{2}+12\sqrt{5}$ (7) $-\sqrt{3}+2\sqrt{5}$ **30쪽** **1** (1) $\sqrt{14}$ (2) $-\sqrt{15}$ (3) $3\sqrt{22}-6$ (4) $2\sqrt{15}-10$ (5) $\sqrt{6}$, $\sqrt{6}$, $\sqrt{5}$, $\sqrt{3}$ (6) $10\sqrt{3}-4$ (7) $-2+2\sqrt{3}$ **2** (1) $\sqrt{3}$, $\sqrt{3}$, $\frac{\sqrt{6}+\sqrt{21}}{3}$ (2) $\frac{2\sqrt{7}-\sqrt{35}}{7}$ (3) $\sqrt{2}-\sqrt{3}$ (4) $\frac{2\sqrt{6}+\sqrt{3}}{5}$ (5) $\frac{3\sqrt{6}-1}{2}$ **31쪽** **1** (1) $4\sqrt{2}$ (2) $\frac{17\sqrt{5}}{5}$ (3) $-\frac{\sqrt{2}}{4}$ (4) $3\sqrt{2}$ (5) $\frac{3\sqrt{2}}{2}$ (6) $12\sqrt{2}-5$ (7) $2\sqrt{3}-4\sqrt{6}$ (8) $4\sqrt{3}-6\sqrt{5}$ (9) $\frac{5\sqrt{3}}{3}-2$ (10) $\sqrt{6}$ **32쪽** **집중 연습****1** (1) $\sqrt{15}+\sqrt{21}$ (2) $\sqrt{35}-\sqrt{15}$ (3) $-3\sqrt{2}+6$ (4) $6-4\sqrt{3}$ (5) $\sqrt{5}-\sqrt{3}$ (6) $6+5\sqrt{2}$ **2** (1) $\frac{\sqrt{5}+\sqrt{15}}{5}$ (2) $\frac{\sqrt{10}-\sqrt{14}}{2}$ (3) $\frac{3+\sqrt{6}}{6}$ (4) $\frac{\sqrt{30}-3}{6}$ (5) $\frac{3\sqrt{6}-\sqrt{3}}{3}$ **3** (1) $\sqrt{6}+\sqrt{2}$ (2) $2\sqrt{5}$ (3) $\frac{10\sqrt{3}}{3}$ (4) $\sqrt{2}+4\sqrt{6}$ (5) $9\sqrt{2}-4\sqrt{6}$ (6) $3\sqrt{2}$ (7) $\frac{11\sqrt{30}}{30}$ (8) $-2\sqrt{3}$ (9) $-\sqrt{5}+\sqrt{7}$ (10) $1+2\sqrt{3}$ **32~35쪽** **대단원 개념 마무리****1** (1) 0 (2) 7, -7 (3) 없다. (4) $\frac{8}{5}$, $-\frac{8}{5}$ **2** (1) $\pm\sqrt{6}$ (2) $\pm\sqrt{11}$ (3) $\pm\sqrt{\frac{1}{31}}$ (4) $\pm\sqrt{2.2}$ **3** (1) $+\sqrt{3}$ (2) $-\sqrt{3}$ (3) $\pm\sqrt{3}$ (4) $\sqrt{3}$ **4** (1) 9 (2) $-\frac{4}{25}$ (3) 8 (4) 30**5** (1) $-3a$ (2) $-0.4a$ **6** (1) $>$ (2) $<$ (3) $>$ (4) $>$ **7** $\sqcup$, $\square$ **8** (1) ○ (2) ○ (3) × (4) ×**9** (1) $4-\sqrt{2}$, $4+\sqrt{2}$ (2) $1-\sqrt{5}$, $1+\sqrt{5}$ **10** $\neg$, $\sqcup$ **11** (1) $<$ (2) $<$ (3) $>$ (4) $>$ **12** 4, 345**13** (1) $\sqrt{\frac{14}{3}}$ (2) $\sqrt{10}$ (3) $\sqrt{\frac{7}{2}}$ (4) $-4\sqrt{3}$ **14** $x=17.72$, $y=0.1792$ **15** (1) $3\sqrt{3}$ (2) $5\sqrt{5}$ (3) $3\sqrt{2}-4\sqrt{7}$ (4) $\frac{11\sqrt{3}}{12}$ **16** (1) $\sqrt{6}-\sqrt{10}$ (2) $6+6\sqrt{21}$ (3) $21\sqrt{3}+14$ (4) $-\sqrt{5}+4\sqrt{6}$ **17** (1) $\frac{\sqrt{22}-6}{2}$ (2) $\frac{3-2\sqrt{3}}{6}$ (3) $\frac{\sqrt{30}+5}{15}$ (4) $\frac{2\sqrt{2}-4\sqrt{7}}{3}$ **18** (1) $2\sqrt{5}$ (2) $-\sqrt{2}-\sqrt{3}$ (3) 3 (4) $-1+\sqrt{10}$

II. 인수분해와 이차방정식

38쪽 **1** (1) 3x, 6 (2) ab , 5b(3) $6x^2$, 2, $6x^2+x-2$ (4) $9a$, 5a, $15a^2-14a+3$ **2** (1) $2ab+6a+4b+12$ (2) $ax-bx+ay-by$ (3) $2xy+6x-y-3$ (4) $3x^2-13xy+4y^2$ (5) $-2a^2+7ab-3b^2$ (6) $15x^2-13xy+2y^2$ **3** (1) -5 (2) -5 (3) 22 (4) -1**39쪽** **1** (1) $2, x^2+4x+4$ (2) $a^2+10a+25$ (3) $4x^2+4x+1$ (4) $3y, x^2+6xy+9y^2$ (5) $16a^2+24ab+9b^2$ (6) $\frac{1}{4}x^2+\frac{1}{3}xy+\frac{1}{9}y^2$ (7) $-2x, -2x, 4x^2-4x+1$ (8) $25a^2-30ab+9b^2$ **2** (1) 3, x^2-6x+9 (2) $a^2-12a+36$ (3) $4x^2-20x+25$ (4) $4b, a^2-8ab+16b^2$ (5) $4x^2-36xy+81y^2$ (6) $16a^2-4ab+\frac{1}{4}b^2$ (7) $-x, -x, x^2+18x+81$ (8) $36a^2+60ab+25b^2$ **40쪽** **1** (1) 3, x^2-9 (2) a^2-25 (3) $x^2-\frac{1}{9}$ (4) $4-x^2$ (5) $36-x^2$ (6) $\frac{4}{25}-a^2$ (7) $16x^2-1$

54쪽

1 (1) $2x^2+5x+2=(x+2)(2x+1)$

1	2	4
2	1	1
		5

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

2	-1	-2
2	3	6
		4

(3) $18x^2-15xy+2y^2=(3x-2y)(6x-y)$

3	-2	-12
6	-1	-3
		-15

(4) $3x^2-4xy-15y^2=(x-3y)(3x+5y)$

1	-3	-9
3	5	5
		-4

2 (1) $(x-5)(3x-1)$ (2) $(x+4)(5x-2)$
 (3) $(3x-5)(4x+1)$ (4) $(x-2y)(3x-4y)$
 (5) $(x-2y)(4x+3y)$

55쪽 1 (1) 55, 45, 100, 4900 (2) 1300 (3) 3700
 (4) 32, 32, 3600 (5) 1800 (6) 64

2 (1) 1, 100, 10000 (2) 3600 (3) 6400 (4) 2, 500, 250000
 (5) 400 (6) 8100

56~57쪽 집중 연습

1 (1) $(x+7)^2$ (2) $(x-8)^2$ (3) $(12-x)^2$ (4) $\left(x+\frac{1}{5}\right)^2$
 (5) $\left(x-\frac{1}{7}\right)^2$ (6) $(3x+2)^2$ (7) $(4x-3)^2$ (8) $(x+6y)^2$
 (9) $\left(x-\frac{3}{5}y\right)^2$ (10) $(5x-4y)^2$

2 (1) $(x+2)(x-2)$ (2) $(3+x)(3-x)$
 (3) $(4x+5)(4x-5)$ (4) $(x+7y)(x-7y)$
 (5) $\left(x+\frac{1}{2}y\right)\left(x-\frac{1}{2}y\right)$ (6) $(5x+8y)(5x-8y)$
 (7) $4(a+2b)(a-2b)$ (8) $3(x+3y)(x-3y)$
 (9) $\frac{1}{9}(2x+y)(2x-y)$ (10) $\frac{1}{3}\left(a+\frac{1}{2}b\right)\left(a-\frac{1}{2}b\right)$

3 (1) $(x+1)(x+3)$ (2) $(x+2)(x+6)$
 (3) $(x-1)(x-7)$ (4) $(x+4)(x-7)$
 (5) $3(x-4)(x+5)$ (6) $2y(x-7)(x+10)$
 (7) $(x+y)(x+5y)$ (8) $(x+3y)(x+6y)$
 (9) $(x-2y)(x+8y)$ (10) $(x+5y)(x-7y)$

4 (1) $(x+3)(2x+5)$ (2) $(2x+3)(3x-1)$
 (3) $(x-3)(2x+5)$ (4) $(4x+1)(6x-5)$
 (5) $-(x-1)(4x-3)$ (6) $(x+y)(2x-7y)$
 (7) $(x-2y)(3x-2y)$ (8) $(2x-3y)(3x-4y)$
 (9) $5(x+2y)(3x+y)$ (10) $3y(x-2y)(2x-5y)$

58쪽

1 (1) $\bigcirc$ (2) $\times$ (3) $2x^2+x+2, \bigcirc$
 (4) $3x-5, \times$ (5) $x^2+x, \bigcirc$ (6) $2x+1, \times$
 (7) $x^2+2x-3, \bigcirc$ (8) $x^3-x^2+6x+2, \times$
 2 (1) $a \neq 0$ (2) $a \neq -3$ (3) $(a-2)x^2+x-6, a \neq 2$
 (4) $(2a-6)x^2+x-1, a \neq 3$

59쪽

1 (1) $\times$ (2) $\bigcirc$ (3) $\times$ (4) $\bigcirc$ (5) $\times$

x의 값	좌변의 값	우변의 값	참/거짓
-2	$(-2)^2-1=3$	0	거짓
-1	$(-1)^2-1=0$	0	참
0	$0^2-1=-1$	0	거짓
1	$1^2-1=0$	0	참

$x=-1$ 또는 $x=1$

x의 값	좌변의 값	우변의 값	참/거짓
-2	$(-2)^2+3 \times (-2)+2=0$	0	참
-1	$(-1)^2+3 \times (-1)+2=0$	0	참
0	$0^2+3 \times 0+2=2$	0	거짓
1	$1^2+3 \times 1+2=6$	0	거짓

$x=-2$ 또는 $x=-1$

3 (1) 3, 3, 15, -15 (2) 5 (3) -6 (4) 2 (5) -4

60~61쪽

1 (1) $x+2, x-5, -2, 5$ (2) $x=-3$ 또는 $x=3$
 (3) $x=-4$ 또는 $x=\frac{1}{2}$ (4) $x=0$ 또는 $x=7$
 (5) $x=0$ 또는 $x=-2$ (6) $x=-1$ 또는 $x=-\frac{3}{2}$
 (7) $x=-\frac{5}{2}$ 또는 $x=\frac{3}{4}$ (8) $x=\frac{1}{2}$ 또는 $x=\frac{2}{3}$

2 (1) $x(x+2), x+2, -2$ (2) $x=0$ 또는 $x=1$
 (3) $x=0$ 또는 $x=-4$ (4) $x=0$ 또는 $x=\frac{1}{2}$
 (5) $x=0$ 또는 $x=-\frac{2}{5}$ (6) $x=0$ 또는 $x=7$
 (7) $x=0$ 또는 $x=-5$

3 (1) $x-2, x-2, 2$ (2) $x=-6$ 또는 $x=6$
 (3) $x=-8$ 또는 $x=8$ (4) $x=-\frac{5}{2}$ 또는 $x=\frac{5}{2}$
 (5) $x=0$ 또는 $x=-5$

4 (1) $x+2, x+2, -2$ (2) $x=2$ 또는 $x=5$
 (3) $x=-5$ 또는 $x=7$ (4) $x=-7$ 또는 $x=3$
 (5) $x=-3$ 또는 $x=-4$

5 (1) $2x-5, 2x-5, \frac{5}{2}$ (2) $x=-\frac{2}{3}$ 또는 $x=1$
 (3) $x=-\frac{3}{2}$ 또는 $x=\frac{1}{2}$ (4) $x=-\frac{7}{3}$ 또는 $x=2$
 (5) $x=\frac{1}{2}$ 또는 $x=\frac{1}{3}$

6 (1) $x=-2$ 또는 $x=6$ (2) $x=-3$ 또는 $x=2$
 (3) $x=-4$ 또는 $x=9$

62쪽

1 (1) -5 (2) $x=4$ (3) $x=-\frac{1}{2}$ (4) $x=\frac{1}{3}$

2 (1) $x+3, -3$ (2) $x=6$ (3) $x=-\frac{1}{2}$ (4) $x=\frac{7}{2}$
 (5) $x=-7$ (6) $x=\frac{5}{2}$ (7) $x=-5$

3 (1) 16, 64 (2) 36 (3) $\frac{1}{9}$

63쪽

1 (1) $x=\pm 2\sqrt{2}$ (2) $x=\pm 2\sqrt{3}$ (3) 16, 4
 (4) $x=\pm 3$ (5) $x=\pm \sqrt{11}$ (6) 6, 6 (7) $x=\pm 5$
 (8) $x=\pm \frac{9}{7}$
 2 (1) 36, 6, 9, -3 (2) $x=9$ 또는 $x=-1$ (3) $x=-2 \pm \sqrt{11}$
 (4) $x=\frac{1 \pm \sqrt{3}}{2}$ (5) $x=\frac{-2 \pm \sqrt{5}}{3}$ (6) 2, 3, 2
 (7) $x=-2 \pm \sqrt{3}$ (8) $x=5 \pm \sqrt{2}$

64쪽

1 (1) 16, 16, 4, 10, 4, 10, -4 $\pm \sqrt{10}$
 (2) $\frac{1}{16}, \frac{1}{16}, \frac{1}{4}, \frac{17}{16}, \frac{1}{4}, \frac{17}{16}, 1, 17$
 2 (1) $x=-3 \pm \sqrt{5}$ (2) $x=4 \pm \sqrt{13}$ (3) $x=1 \pm \sqrt{6}$
 (4) $x=-2 \pm \sqrt{7}$ (5) $x=\frac{5 \pm \sqrt{19}}{2}$

65~66쪽

1 (1) -5, -5, 1, 1, 5, 17, 2 (2) 4, 4, -1, 4, 28, 4, 7, 7
 2 (1) 1, 3, 1, $x=\frac{-3 \pm \sqrt{5}}{2}$ (2) 1, 6, -4, $x=-3 \pm \sqrt{13}$
 (3) 2, -7, -6, $x=\frac{7 \pm \sqrt{97}}{4}$ (4) 3, 1, -5, $x=\frac{-1 \pm \sqrt{61}}{6}$
 (5) 6, -3, -1, $x=\frac{3 \pm \sqrt{33}}{12}$

3 (1) 1, 3, -2, 3, 3, 1, $-3 \pm \sqrt{11}$ (2) 3, 1, -3, $x=\frac{-1 \pm \sqrt{10}}{3}$
 (3) 4, 2, -5, $x=\frac{-1 \pm \sqrt{6}}{2}$ (4) 5, -4, 2, $x=\frac{4 \pm \sqrt{6}}{5}$
 4 (1) $x=\frac{5 \pm \sqrt{13}}{2}$ (2) $x=\frac{-5 \pm \sqrt{17}}{4}$ (3) $x=\frac{-3 \pm \sqrt{3}}{2}$
 (4) $x=\frac{1 \pm \sqrt{7}}{3}$ (5) $x=\frac{-7 \pm \sqrt{73}}{6}$ (6) $x=\frac{-3 \pm \sqrt{21}}{4}$
 (7) $x=\frac{-2 \pm \sqrt{19}}{5}$ (8) $x=\frac{3 \pm \sqrt{57}}{12}$

67쪽

1 (1) 7, 14, 1, 3 (2) $x=\frac{-1 \pm \sqrt{7}}{6}$
 (3) $x=\frac{4 \pm \sqrt{46}}{2}$ (4) $x=\frac{9 \pm \sqrt{33}}{12}$ (5) $x=\frac{1 \pm \sqrt{11}}{3}$
 2 (1) 10, 21, 3, 7 (2) $x=\frac{-1 \pm \sqrt{6}}{5}$ (3) $x=1$ 또는 $x=11$
 (4) $x=\frac{5 \pm \sqrt{65}}{10}$ (5) $x=\frac{-5 \pm \sqrt{13}}{4}$

68~69쪽

집중 연습
 1 (1) $x=0$ 또는 $x=-7$ (2) $x=-5$ 또는 $x=-3$
 (3) $x=-3$ 또는 $x=-\frac{1}{2}$ (4) $x=8$
 (5) $x=3$ 또는 $x=4$ (6) $x=2$
 2 (1) $x=\pm 6\sqrt{2}$ (2) $x=\pm \sqrt{6}$
 (3) $x=3 \pm 2\sqrt{2}$ (4) $x=1$ 또는 $x=-\frac{5}{3}$

(5) $x=0$ 또는 $x=-4$ (6) $x=\pm \frac{\sqrt{3}}{2}$
 3 (1) $x=\frac{3 \pm \sqrt{5}}{2}$ (2) $x=\frac{-5 \pm \sqrt{41}}{4}$ (3) $x=\frac{1 \pm \sqrt{13}}{6}$
 (4) $x=\frac{9 \pm \sqrt{33}}{8}$ (5) $x=\frac{-1 \pm \sqrt{3}}{2}$ (6) $x=\frac{-4 \pm \sqrt{30}}{2}$
 (7) $x=\frac{3 \pm \sqrt{3}}{6}$ (8) $x=\frac{2 \pm \sqrt{3}}{3}$
 4 (1) $x=\frac{3 \pm \sqrt{21}}{3}$ (2) $x=\frac{1 \pm \sqrt{37}}{9}$ (3) $x=\frac{-5 \pm \sqrt{35}}{2}$
 (4) $x=-\frac{1}{2}$ 또는 $x=1$ (5) $x=\frac{-1 \pm \sqrt{31}}{10}$
 (6) $x=\frac{6 \pm \sqrt{42}}{2}$ (7) $x=\frac{-2 \pm 2\sqrt{11}}{5}$

70~72쪽

1 (1) 20개 (2) 십이각형 2 (1) 10회 (2) 8팀
 3 (1) $2x+1=(x-1)^2$ (2) $x=0$ 또는 $x=4$ (3) 4
 4 (1) $(x+3)^2=2x^2+2$ (2) $x=-1$ 또는 $x=7$ (3) 7
 5 (1) $x+2$ (2) $x(x+2)=80$
 (3) $x=-10$ 또는 $x=8$ (4) 8, 10
 6 (1) $x-1, x+1$ (2) $(x+1)^2=(x-1)^2+x^2$
 (3) $x=0$ 또는 $x=4$ (4) 3, 4, 5
 7 (1) $x+2$ (2) $x(x+2)=168$
 (3) $x=-14$ 또는 $x=12$ (4) 12살
 8 (1) $x-7$ (2) $x(x-7)=120$
 (3) $x=-8$ 또는 $x=15$ (4) 15자루
 9 (1) $-5x^2+40x=75$ (2) $x=3$ 또는 $x=5$ (3) 3초 후 (4) 8초
 10 6초 후
 11 (1) $x+9, x+6$ (2) $(x+9)(x+6)=2x^2$
 (3) $x=-3$ 또는 $x=18$ (4) 18 cm
 12 3 cm

73~75쪽

대단원 개념 마무리
 1 (1) $ab+5a+2b+10$ (2) $3xy-12x+2y-8$
 (3) $2a^2+2ab-7a-b+3$
 (4) $-6x^2-y^2+5xy+10x-5y$
 2 (1) $4x^2+12x+9$ (2) $\frac{1}{9}a^2+4ab+36b^2$
 (3) $a^2-10a+25$ (4) $16x^2+4xy+\frac{1}{4}y^2$
 3 (1) $9-4x^2$ (2) $\frac{1}{49}y^2-4x^2$
 (3) $x^2-2x-15$ (4) $\frac{1}{6}a^2-ab-12b^2$
 4 (1) 12100 (2) 1591 (3) 27,03
 5 (1) $37-20\sqrt{3}$ (2) -1 (3) $-5+5\sqrt{6}$
 6 (1) $-4\sqrt{2}$ (2) $\frac{\sqrt{6}}{2}$ (3) $-2\sqrt{35}$
 7 $\neg, \perp, \supset, \vee$
 8 (1) $2x(x-3y)$ (2) $xy(x-2y+1)$
 (3) $(x+y)(a-5)$ (4) $(3x-y)(y+1)$

9 (1) $(x+10)^2$ (2) $\left(x-\frac{1}{2}\right)^2$ (3) $(2x-7)^2$ (4) $3(x-5)^2$
 10 (1) 25 (2) $\frac{1}{9}$ (3) $\pm \frac{2}{5}$ (4) ± 48
 11 (1) $(2x+5)(2x-5)$ (2) $\left(\frac{1}{4}x+\frac{7}{8}y\right)\left(\frac{1}{4}x-\frac{7}{8}y\right)$
 (3) $2\left(\frac{1}{3}y+x\right)\left(\frac{1}{3}y-x\right)$
 12 (1) $(x+4)(x+5)$ (2) $(a-1)(5a+3)$
 (3) $2(2x-y)(4x-3y)$
 13 (1) 100 (2) -400 (3) 100
 14 $\sqcap$ 15 (1) $\times$ (2) $\bigcirc$ (3) $\times$
 16 (1) -6 (2) -3 (3) 1
 17 (1) $x=-\frac{1}{3}$ 또는 $x=\frac{1}{3}$ (2) $x=-1$ 또는 $x=7$ (3) $x=-\frac{1}{4}$
 18 (1) 16 (2) $\frac{9}{4}$
 19 (1) $x=3 \pm \sqrt{2}$ (2) $x=-1 \pm \frac{2\sqrt{3}}{3}$
 20 (1) $x=\frac{-3 \pm \sqrt{21}}{6}$ (2) $x=\frac{1 \pm \sqrt{11}}{2}$
 (3) $x=\frac{-1 \pm \sqrt{145}}{6}$ (4) $x=\frac{-5 \pm \sqrt{29}}{4}$
 21 24 22 16 m

Ⅲ. 이차함수

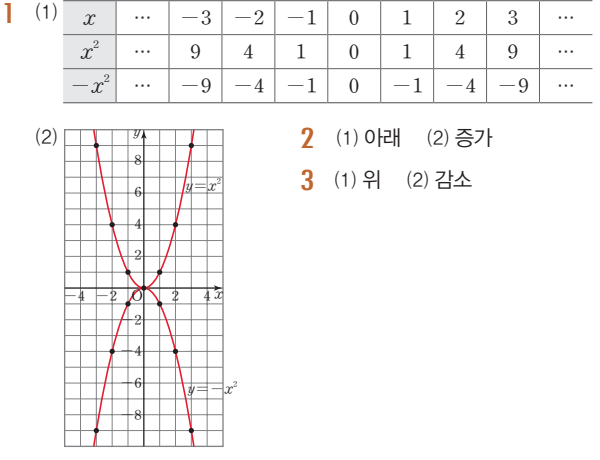
78쪽

1 (1) $\times$ (2) $\bigcirc$ (3) $\times$ (4) $x^2+1, \bigcirc$
 (5) $x^2+7x+12, \bigcirc$ (6) $2x, \times$ (7) $5x^2+15x, \bigcirc$
 2 (1) $y=3x, \times$ (2) $y=\pi x^2, \bigcirc$ (3) $y=x^3, \times$
 (4) $y=\frac{x^2-3x}{2}, \bigcirc$ (5) $y=2x^2+3x+1, \bigcirc$

79쪽

1 (1) 0, 0, 3 (2) 2 (3) 11 (4) $\frac{22}{9}$
 2 (1) 5 (2) -4 (3) 4 (4) $-\frac{9}{4}$
 3 (1) 1, 1, $a-3, 5$ (2) -3 (3) -11 (4) -5 (5) $-\frac{1}{4}$
 (6) $\frac{7}{16}$

80쪽



81~83쪽

