

01 지수

9~31쪽

- 001 a^8

002 a^5

003 $\frac{4a^2}{b^2}$

004 a^4b^9

005 $-9a^7b^{12}$
- 006 $2a^4b$

007 b^{18}

008 $\frac{1}{2}a^9b^2$

009 1, 1, $\sqrt{3}$, $\sqrt{3}$
- 010 2, $-1 \pm \sqrt{3}i$

011 -5 , $\frac{5 \pm 5\sqrt{3}i}{2}$

012 ± 3 , $\pm 3i$
- 013 ± 5 , $\pm 5i$

014 3

015 -1

016 -4

017 -2 , 2

018 $-\sqrt{7}$, $\sqrt{7}$

019 $\times$

020 $\circ$

021 $\times$

022 $\circ$

023 $\times$

024 5, 5

025 -6

026 0, 2

027 5

028 -3

029 $\frac{1}{2}$

030 -3

031 ③

032 ③

033 ⑤

034 ⑤

035 3

036 4
- 037 6

038 3

039 $\frac{1}{5}$

040 2

041 $\frac{1}{3}$

042 6

043 $\frac{1}{5}$

044 4

045 2

046 25

047 $\frac{1}{4}$

048 $\sqrt{11}$

049 $\sqrt[3]{-\frac{1}{49}}$

050 64

051 $\frac{1}{27}$

052 $\sqrt[5]{5}$

053 $\sqrt{2}$

054 81

055 $\frac{1}{5}$

056 6

057 3

058 2

059 1

060 a

061 a^2

062 a

063 a^2b^4

064 a^3b^3

065 a^2

066 $2a^3b^3$

067 ④

068 27

069 ④

070 5

071 ④

072 ①

073 1
- 074 $>$, 12, $>$, $>$

075 $>$

076 $>$

077 $<$

078 $<$

079 $\sqrt[8]{10} < \sqrt{2} < \sqrt[4]{5}$

080 $\sqrt[3]{2} < \sqrt[6]{5} < \sqrt[4]{3}$

081 $\sqrt[4]{6} < \sqrt[3]{4} < \sqrt{3}$

082 $\sqrt[3]{2} < \sqrt[9]{12} < \sqrt[6]{6}$

083 $\sqrt[12]{15} < \sqrt[6]{4} < \sqrt[4]{7}$

084 ④

085 $A < C < B$

086 18
- 087 1

088 $\frac{1}{16}$

089 $\frac{1}{5}$

090 27

091 $\frac{16}{81}$

092 $\frac{1}{64}$

093 9

094 32

095 $\frac{a^{18}}{b^{12}}$

096 $\frac{1}{a^2}$

097 $\frac{b^{27}}{a^{11}}$

098 a^6

099 ③

100 8

101 ②

102 $\frac{9}{16}$
- 103 $\frac{1}{2}$

104 $2^{\frac{1}{3}}$

105 $7^{\frac{2}{3}}$

106 $5^{-\frac{3}{5}}$

107 3

108 $\sqrt[5]{9}$

109 $\sqrt[4]{5}$

110 $\sqrt{3}$

111 2

112 8

113 $\frac{2}{3}$

114 4

115 7

116 9

117 a^2

118 a

119 $a^{\frac{13}{12}}$

120 a^2

121 $a^{\frac{1}{4}}$

122 $a^{\frac{7}{8}}$

123 $a^{\frac{7}{4}}$

124 $a^{\frac{7}{12}}$

125 ab

126 $a^{\frac{5}{12}}b^{\frac{17}{6}}$

127 $3^{2\sqrt{2}}$

128 125

129 4

130 243

131 $5^{2\sqrt{3}}$

132 144

133 $2^{\frac{\sqrt{2}}{6}}$

134 a^6

135 $a^{2\sqrt{2}}$

136 $a^{4\sqrt{2}}$

- 137 $a^{\sqrt{7}}$

138 a^6b^9

139 ab^2

140 ab^3

141 ④

142 $\frac{5}{2}$

143 ④

144 ②

145 ④

146 6

147 ②

148 ④

149 14

150 31

151 $\frac{15}{4}$

152 ②

153 ⑤
- 154 $a^{\frac{1}{2}} - b^{\frac{1}{2}}$

155 4

156 $a+b$

157 2, 3, 2

158 11

159 $\frac{49}{6}$

160 2, 2, 3, 7

161 47

162 18

163 6

164 $4\sqrt{2}$

165 14

166 $2x$, 3, $\frac{1}{2}$

167 $\frac{14}{3}$

168 9

169 $2x$, 1, 3

170 $\frac{10}{3}$

171 $\frac{4\sqrt{3}}{3}$

172 $x^2 - x^{-2}$

173 ③

174 ④

175 ②

176 ②

177 $\frac{1}{7}$

178 ①

179 4

180 $\frac{8}{3}$

181 73
- 실전유형으로 중단원 점검

1 ④

2 2

3 ③

4 ①

5 ③

6 ③

7 -3

8 4

9 ④

10 ②

11 52

12 $2\sqrt{2}-1$
- 02 로그

33~53쪽
- 001 $3=\log_2 8$

002 $4=\log_5 625$

003 $-3=\log_4 \frac{1}{64}$

004 $2=\log_{\frac{1}{3}} \frac{1}{9}$

005 $-4=\log_{\frac{1}{2}} 16$

006 $\frac{1}{2}=\log_6 \sqrt{6}$

007 $3^3=27$

008 $11^0=1$

009 $5^{-2}=\frac{1}{25}$

010 $10^{-4}=0.0001$

011 $\left(\frac{1}{6}\right)^3=\frac{1}{216}$

012 $7^{\frac{3}{2}}=7\sqrt{7}$

013 16, 4, 4, 4

014 -2

015 -3

016 4

017 3, 125

018 $\frac{1}{32}$

019 8

020 15

021 $x > -2$

022 $7 < x < 8$ 또는 $x > 8$

023 $1 < x < 2$

024 1, 6, 6, 6, 7, 0, 5, 6, 6, 7

025 $\frac{4}{5} < x < 1$ 또는 $1 < x < 4$

026 ④

027 ⑤

028 ③

029 ①

030 8

031 4

032 ①
- 033 0

034 1

035 5

036 -2

037 3

038 $\frac{1}{6}$

039 $\frac{2}{3}$

040 1

041 1

042 2

043 3

044 3

045 1

046 2

047 2

048 $\frac{1}{3}$

049 1

050 -1

051 5

052 2

053 2

054 $\frac{5}{2}$

055 ⑤

056 1

057 8

058 -3
- 실전유형으로 중단원 점검

1 ③

2 10

3 ②

4 18

5 41

6 ②

7 ④

8 ④

9 7

10 ①

11 61, 4204

12 ⑤

13 ④
- 03 지수함수

54~79쪽
- 001 $\circ$

002 $\times$

003 $\circ$

004 $\times$

005 $\times$

006 $\circ$

007 $\times$

008 4

009 $\sqrt{2}$

010 128

011 1

012 27

013 $\frac{1}{9}$

014 245

015 ④

016 ③

017 $\frac{1}{8}$
- 059 $\frac{3}{2}$

060 $\frac{5}{3}$

061 $-\frac{3}{2}$

062 2

063 4

064 6

065 3

066 1

067 2

068 $\frac{1}{2}$

069 $\frac{1}{4}$

070 3

071 1

072 $\frac{4}{3}$

073 2

074 3

075 2

076 3

077 0

078 1

079 3

080 22

081 2

082 ①

083 ①

084 $\frac{5}{3}$

085 $\frac{7}{2}$

086 $\frac{3}{4}$

087 6

088 $\frac{1}{2}$

089 81

090 5

091 6

092 $\sqrt{2}$

093 $\frac{3}{4}$

094 -2

095 3

096 5

097 7

098 (1) $-\frac{1}{4}$ (2) 6

099 ⑤

100 ④

101 $2a+3b+1$

102 ③

103 ②

104 ①

105 ②

106 $\frac{2b+c}{a+b}$

107 ④

108 ④

109 2

110 ③

111 $\frac{1}{5}$

112 $\frac{9}{16}$

113 ④

114 (1) -1 (2) 1

115 ⑤

116 16

117 ④

118 -3

119 2

120 -4

121 -5

122 $\frac{1}{4}$

123 $\frac{8}{3}$

124 $\frac{7}{2}$

125 2

126 3

127 $\frac{1}{3}$

128 $-\frac{5}{2}$

129 $\frac{14}{15}$

130 10, 10, 1, 1, 5132

131 4, 5132

132 -2.4868

133 2.2122

134 -1.7878

135 -3.7878

136 0.3304

137 0.3729

138 1.3522

139 3.3655

140 -0.6655

141 -4.6517

142 1, 10, 10, 13.2, 13.2

143 1320

144 0.132

145 ④

146 ③

147 ③

148 0.3266

149 ②

150 $\neg$, $\cup$

151 ②

152 5.33

153 ③

154 0.95

155 ①

156 ③

실전유형으로 중단원 점검

1 ③

2 10

3 ②

4 18

5 41

6 ②

7 ④

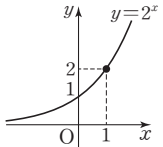
8 ④

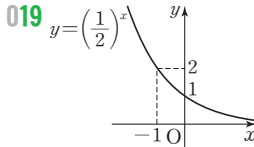
9 7

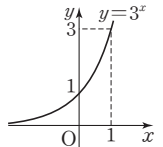
10 ①

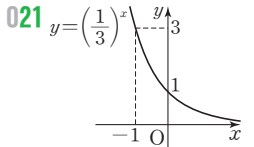
11 61, 4204

12 ⑤

13 ④
- 018 

019 

020 

021 

022 실수

023 증가

024 1

025 양의 실수

026 x

027 2

028 $y=3^{x+2}+1$

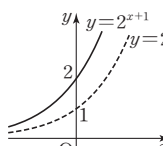
029 $y=\left(\frac{1}{5}\right)^{x-4}-1$

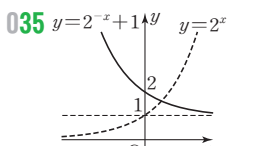
030 $y=-2^{x+3}-5$

031 $y=-2^{x-1}-1$

032 $y=\left(\frac{1}{2}\right)^{x+1}+1$

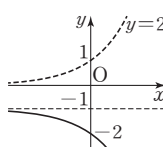
033 $y=-\left(\frac{1}{2}\right)^{x+1}-1$

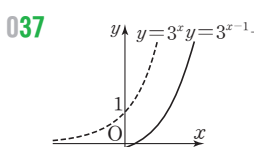
034 

035 

치역: $\{y|y>0\}$,
점근선의 방정식: $y=0$

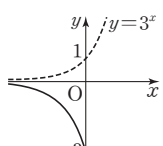
치역: $\{y|y>1\}$,
점근선의 방정식: $y=1$

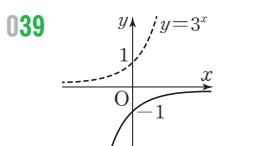
036 

037 

치역: $\{y|y<-1\}$,
점근선의 방정식: $y=-1$

치역: $\left\{y\left|y>-\frac{1}{2}\right.\right\}$,
점근선의 방정식: $y=-\frac{1}{2}$

038 

039 

치역: $\{y|y<0\}$,
점근선의 방정식: $y=0$

치역: $\{y|y<0\}$,
점근선의 방정식: $y=0$

040 $\circ$

041 $\circ$

042 $\times$

043 $\times$

044 $\times$

045 $\times$

046 $\circ$

047 $\circ$

048 $\neg$, $\cup$

049 ④

050 $a < -4$ 또는 $a > 2$

051 ④

052 3

053 -4

054 ⑤

055 $\neg$, $\cup$, $\cap$

056 -2

057 ④

058 ④

059 ⑤

060 16

061 $<$

062 $<$

063 $>$, 2, 20, 3, 18, $>$, $>$

064 $<$

065 $>$

066 $4 < 4^{\sqrt{2}} < 4^{\frac{7}{3}}$
- 067 $\left(\frac{1}{6}\right)^{-0.7} < \left(\frac{1}{6}\right)^{-1} < \left(\frac{1}{6}\right)^{-\sqrt{5}}$

068 2, $\frac{1}{3}$, 4, $\frac{4}{5}$, $<$, $<$, $3^{\frac{1}{4}}$, $\sqrt[5]{81}$

069 $\frac{1}{49} < \sqrt{\frac{1}{7}} < 7^{0.1}$

070 $5^{0.5} < \sqrt[3]{25} < \sqrt{125}$

071 $\sqrt[3]{0.01} < \sqrt[4]{0.001} < \sqrt{0.1}$

072 ①

073 $\frac{1}{25}$

074 ④

075 최댓값: 27, 최솟값: 1

076 최댓값: 8, 최솟값: $\frac{1}{4}$

077 최댓값: 64, 최솟값: $\frac{1}{8}$

078 최댓값: 81, 최솟값: $\frac{1}{81}$

079 최댓값: 64, 최솟값: $\frac{1}{4}$

080 최댓값: 38, 최솟값: 3

081 최댓값: 128, 최솟값: $\frac{16}{5}$

082 최댓값: 2, 최솟값: $-\frac{31}{16}$

083 $\frac{2}{7}$, $\frac{2}{7}$, $\frac{2}{7}$, -1 , $\frac{7}{2}$, 1, $\frac{7}{2}$

084 최댓값: $\frac{125}{27}$, 최솟값: $\frac{9}{25}$

085 최댓값: 1, 최솟값: $\frac{16}{25}$

086 최댓값: $\frac{1}{16}$, 최솟값: $-\frac{17}{7}$

087 3, -2 , -3 , 1, -3 , 1, 1, 1, 2, -3 , -3 , $\frac{1}{8}$

088 최댓값: 25, 최솟값: $\frac{1}{25}$

089 최댓값: 27, 최솟값: $\frac{1}{3}$

090 최댓값: 1, 최솟값: $\frac{1}{625}$

091 ⑤

092 31

093 ⑤

094 ③

095 ⑤

096 $\frac{1}{9}$

097 (가) 1 (나) 3 (다) 3 (라) 1 (마) -1

098 $\frac{1}{6}$

099 1

100 $x=2$

101 $x=6$

102 $x=3$

103 $x=-\frac{7}{2}$

104 $x=-2$

105 $x=1$

106 $x=-3$

107 $x=\frac{2}{3}$

108 $x=-1$ 또는 $x=2$

109 2^x , 2^x , 4, 5, 1, 1, 1, 0

110 $x=1$ 또는 $x=2$

111 $x=-3$ 또는 $x=-1$

112 $x=2$

113 $x=-1$

114 1, 8, 4, 1, 1, 0, 0, 4

115 $x=1$ 또는 $x=4$

116 $x=3$ 또는 $x=4$

117 0, 6, 0, 0, 3, 3, 6

118 $x=-1$ 또는 $x=\frac{1}{2}$

119 $x=2$

120 2

121 -2

122 ⑤

123 $\frac{45}{4}$

124 ②

125 3

126 64

127 ①

128 ④

129 ③

130 21

131 ②

132 ⑤

133 $x>3$

134 $x>\frac{2}{3}$

135 $x\leq 6$

136 $x\leq -9$
- 137 $x < 2$

138 $x \geq -5$

139 $x \leq \frac{8}{3}$

140 $x > 1$

141 $x \geq \frac{5}{4}$

142 $-2 < x < 5$

143 $-4 < x < 6$

144 $-3 \leq x < 4$

145 3^x , 3^x , 8, 9, 9, 9, 9, 3^x , 9, 2, 2

146 $x \geq 1$

147 $x \leq -3$

148 $-1 < x < 0$

149 $-3 \leq x \leq 0$

150 $>$, $>$, $<$, 1, $<$, $<$, $>$, 1, $>$

151 $0 < x \leq \frac{2}{3}$ 또는 $x \geq 1$

152 $1 \leq x \leq 4$

153 3

154 -8

155 $a < x < d$

156 ③

157 ②

158 $1 < x < 2$

159 $k > 4$

160 ④

161 ③

162 12

163 ④

164 ①

실전유형으로 중단원 점검

1 ①

2 $\neg$, $\cap$

3 1

4 $\sqrt{21}$

5 $A < B < C$

6 ②

7 $\frac{8}{3}$

8 ⑤

9 ③

10 1

11 $x=\frac{1}{3}$ 또는 $x=3$

12 7

13 ②

14 8년

04 로그함수

80~107쪽

001 $y=\log_2 x$

002 $y=\log_{\frac{1}{3}} x$

003 $y=\log_5 x-1$

004 $y=\log_7 (x-3)$

005 $\circ$

006 $\times$

007 $\circ$

008 $\times$

009 $\times$

010 4

011 -2

012 3

013 1

014 0

015 5

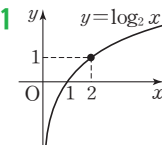
016 -2

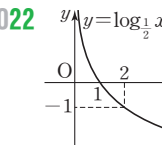
017 1

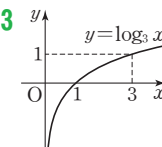
018 ②

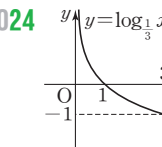
019 4

020 ④

021 

022 

023 

024 

025 양의 실수

026 증가

027 0

028 2

029 y

030 4

031 $y=x$

032 실수

033 감소

034 1

035 -2

036 $x=0$

037 $\neq$

038 $x^{\frac{1}{2}}$

039 $y=\log_2 (x-2)+1$

040 $y=\log_3 (x+1)+2$

041 $y=\log_{\frac{1}{3}} (x-3)-2$

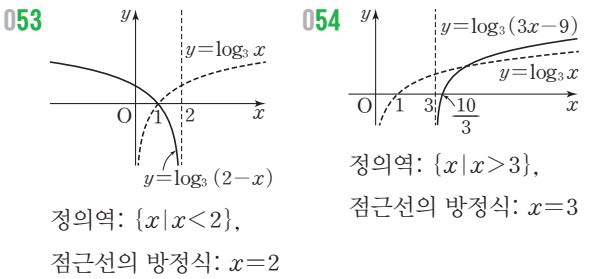
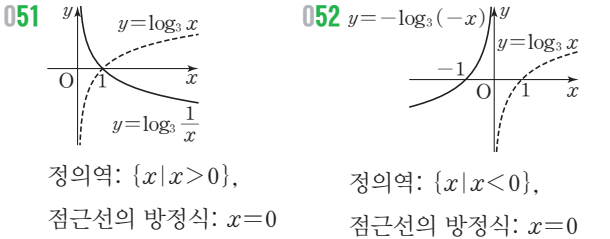
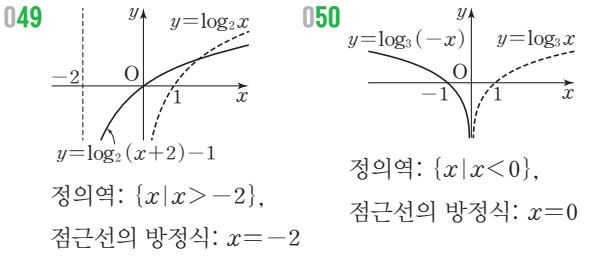
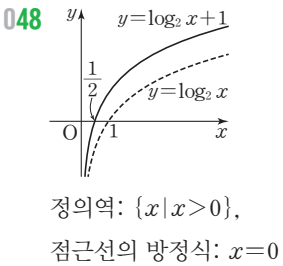
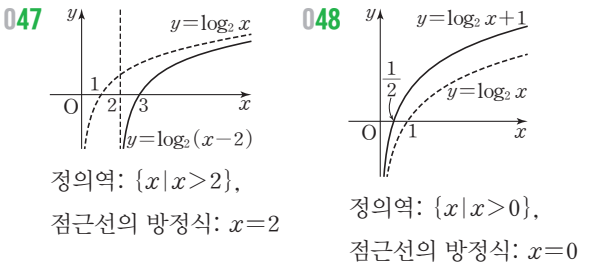
042 $y=-\log_4 (x+2)+5$

043 $y=-\log_3 (x+1)+1$

044 $y=\log_3 (-x+1)-1$

045 $y=-\log_3 (-x+1)+1$

046 $y=3^{x+1}-1$
- 1 -
- 2 -
- 3 -
- 자르는 선



055 × **056** ○ **057** × **058** ○ **059** × **060** ○
061 × **062** × **063** ㄱ, ㄷ **064** $\{x|-3<x<5\}$
065 ① **066** ④ **067** ① **068** ㄱ, ㄷ, ㄹ **069** ③
070 1 **071** 3 **072** ⑤ **073** ④ **074** 8 **075** ①
076 -8 **077** ④ **078** ③ **079** ② **080** 5

081 < **082** < **083** > **084** >, 2, 9, 2, 7, >, >
085 > **086** $\log_6 \frac{11}{5} < \log_6 \frac{8}{3} < \log_6 3$
087 $2 \log_{0.1} 3 < \log_{0.1} 5 < -\log_{0.1} \frac{1}{4}$
088 2, 2, $\frac{1}{2}$, $\sqrt{7}$, <, <, 1, $\log_4 7$
089 $2 \log_3 2 < \log_9 25 < 2$ **090** $-3 < \log_{\frac{1}{3}} 10 < \log_{\frac{1}{9}} 80$

091 $\frac{1}{2} \log_{\frac{1}{5}} 3 < \log_{\frac{1}{5}} \frac{1}{2} < \log_{25} 16$ **092** ④
093 $B < C < A$ **094** $\log_a 7$

095 최댓값: 4, 최솟값: 1 **096** 최댓값: 3, 최솟값: 0
097 최댓값: 2, 최솟값: 0 **098** 최댓값: 1, 최솟값: -4
099 최댓값: 4, 최솟값: 2 **100** 최댓값: -1, 최솟값: -5
101 최댓값: 4, 최솟값: 2 **102** 최댓값: -2, 최솟값: -4
103 최댓값: 2, 최솟값: -2 **104** 1, 1, 1, 5, 5, 1, 1, 1, 0
105 최댓값: 2, 최솟값: $\log_3 5$
106 최댓값: 6, 최솟값: 2 **107** 최댓값: 0, 최솟값: -1
108 최댓값: -2, 최솟값: -3 **109** -18 **110** ④
111 ④ **112** ② **113** ① **114** 0 **115** 4
116 (가) 8 (나) 3 (다) 12 (라) 1 (마) 8 **117** ③ **118** -3

119 2, 9, 7, 7 **120** $x=4$ **121** $x=\frac{1}{5}$ **122** $x=2$
123 7, 3, 3 **124** $x=-1$ **125** $x=3$ **126** $x=7$
127 $x=3$ **128** 1, -4, -4 **129** $x=-\frac{1}{5}$
130 $\frac{1}{4}$, $\frac{1}{4}$, $4x$, $\frac{3}{2}$, $\frac{3}{2}$ **131** $x=2$
132 6, 3, 3, 3, 3, 8, 8 **133** $x=\frac{1}{9}$ 또는 $x=1$
134 $x=\frac{1}{27}$ 또는 $x=3$ **135** $x=2$ 또는 $x=32$
136 2, 2, 1, -1, -1, -1, $\frac{1}{3}$, $\frac{1}{3}$
137 $x=5$ 또는 $x=25$ **138** ③ **139** 49 **140** 12
141 $x=-\frac{1}{2}$ 또는 $x=3$ **142** ① **143** 64 **144** 32
145 2 **146** $\frac{1}{2}$ **147** 16 **148** ③ **149** $\frac{17}{8}$ **150** ④
151 ②

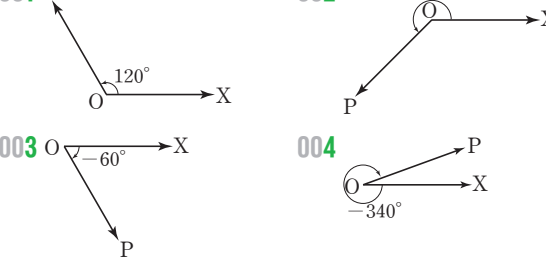
152 11, 6, 6 **153** $\frac{3}{2} < x < 4$ **154** $x \geq 6$ **155** $x \geq \frac{4}{3}$
156 $x > 2$ **157** $4 < x < 6$ **158** $1 < x \leq 3$
159 $4 < x < 5$ **160** $x > -\frac{2}{3}$ **161** $0 \leq x < 1$
162 $x \geq 8$
163 $\log_3 x$, 3, 1, 1, $\log_3 x$, 1, $\frac{1}{81}$, 3, $\frac{1}{81}$, 3, $\frac{1}{81}$, 3
164 $0 < x \leq \frac{1}{64}$ 또는 $x \geq 4$ **165** $0 < x < 2$ 또는 $x > 32$
166 $\frac{1}{125} < x < \frac{1}{5}$ **167** $\frac{1}{36} \leq x \leq 6$
168 1, $\log_5 x$, 1, 1, 1, $\log_5 x$, 1, 5, 5, 0, 5
169 $\frac{1}{2} < x < 4$ **170** $0 < x < \frac{1}{10}$ 또는 $x > 1000$ **171** ⑤
172 3 **173** 9 **174** $1 < x \leq 8$ **175** ② **176** 25
177 ③ **178** 6 **179** $0 < x < \frac{1}{4}$ 또는 $x > 8$ **180** ①
181 ② **182** $\frac{1}{100}$ 기압 이상 $\frac{1}{10}$ 기압 이하 **183** ②

(실전유형)으로 중단원 점검

1 ① **2** ⑤ **3** 16 **4** 24 **5** ③
6 $B < C < A$ **7** 8 **8** -2 **9** ① **10** 3
11 $\frac{1}{16}$ **12** ③ **13** 11 **14** ① **15** 25

067 $\frac{\pi}{4}$, 8, 8, 8π , 8, 8π **068** $r=6$, $S=12\pi$
069 $r=10$, $S=30\pi$ **070** $r=\frac{4}{7}$, $S=\frac{4}{21}\pi$
071 3 , $\frac{\pi}{3}$, $\frac{\pi}{3}$, π **072** $\theta=\frac{4}{5}\pi$, $l=4\pi$ **073** $\theta=\frac{3}{2}\pi$, $l=6\pi$
074 $\theta=\frac{\pi}{9}$, $l=\frac{2}{3}\pi$ **075** $\frac{\pi}{4}$, 16, 4, 4, π
076 $r=2$, $l=3\pi$ **077** $r=6$, $l=\frac{5}{2}\pi$ **078** $r=3$, $l=\frac{6}{5}\pi$

079 ④ **080** 24 **081** ② **082** ⑤ **083** $\frac{\pi}{2}$ **084** ⑤
085 ③ **086** 27 **087** ②



005 $360^\circ \times n + 40^\circ$ **006** $360^\circ \times n + 125^\circ$ **007** $360^\circ \times n + 310^\circ$
008 $360^\circ \times n + 245^\circ$ **009** $360^\circ \times n + 100^\circ$ **010** $360^\circ \times n + 120^\circ$
011 $360^\circ \times n + 45^\circ$ **012** $360^\circ \times n + 150^\circ$ **013** $360^\circ \times n + 90^\circ$
014 $360^\circ \times n + 30^\circ$ **015** ④ **016** ㄱ, ㄷ **017** ⑤

018 75, 1 **019** 제2사분면 **020** 제3사분면
021 제4사분면 **022** 제2사분면 **023** 제4사분면
024 45, 45, 45, 1, 45, 180, 225, 3, 1, 3
025 제2사분면, 제4사분면
026 제2사분면, 제3사분면, 제4사분면 **027** 90, 90, 2, 1, 90
028 240° **029** 300° **030** 108° **031** 90, 90, 4, 3, 270
032 144° **033** 210° **034** 150° **035** ② **036** ① **037** 6
038 $\frac{\sqrt{3}}{2}$ **039** 270° **040** 6 **041** ⑤

042 $\frac{\pi}{180} \cdot \frac{5}{12}$ **043** $\frac{5}{6}\pi$ **044** $\frac{4}{3}\pi$ **045** $-\frac{3}{5}\pi$
046 $-\frac{7}{6}\pi$ **047** $-\frac{7}{4}\pi$ **048** 180, 36
049 120° **050** 330° **051** -54° **052** -105°
053 -260° **054** $2n\pi + \pi$ **055** $2n\pi + \frac{3}{2}\pi$
056 $2n\pi + \frac{2}{3}\pi$ **057** $2n\pi + \frac{3}{4}\pi$ **058** $2n\pi + \frac{7}{5}\pi$
059 $2n\pi + \frac{\pi}{6}$ **060** ㄱ, ㄴ, ㄷ **061** ④ **062** ②

063 $\frac{\pi}{6}$, $\frac{4}{3}\pi$, $\frac{\pi}{6}$, $\frac{16}{3}\pi$ **064** $l=\frac{3}{2}\pi$, $S=\frac{3}{2}\pi$
065 $l=6\pi$, $S=27\pi$ **066** $l=16\pi$, $S=96\pi$

067 $\frac{\pi}{4}$, 8, 8, 8π , 8, 8π **068** $r=6$, $S=12\pi$
069 $r=10$, $S=30\pi$ **070** $r=\frac{4}{7}$, $S=\frac{4}{21}\pi$
071 3 , $\frac{\pi}{3}$, $\frac{\pi}{3}$, π **072** $\theta=\frac{4}{5}\pi$, $l=4\pi$ **073** $\theta=\frac{3}{2}\pi$, $l=6\pi$
074 $\theta=\frac{\pi}{9}$, $l=\frac{2}{3}\pi$ **075** $\frac{\pi}{4}$, 16, 4, 4, π
076 $r=2$, $l=3\pi$ **077** $r=6$, $l=\frac{5}{2}\pi$ **078** $r=3$, $l=\frac{6}{5}\pi$
079 ④ **080** 24 **081** ② **082** ⑤ **083** $\frac{\pi}{2}$ **084** ⑤
085 ③ **086** 27 **087** ②

088 4, 5, $\frac{3}{5}$, $\frac{4}{5}$, $\frac{3}{4}$
089 $\sin \theta = \frac{12}{13}$, $\cos \theta = -\frac{5}{13}$, $\tan \theta = -\frac{12}{5}$
090 $\sin \theta = -\frac{8}{17}$, $\cos \theta = \frac{15}{17}$, $\tan \theta = -\frac{8}{15}$
091 $\sin \theta = -\frac{\sqrt{2}}{2}$, $\cos \theta = \frac{\sqrt{2}}{2}$, $\tan \theta = -1$
092 $\sin \theta = -\frac{3}{5}$, $\cos \theta = -\frac{4}{5}$, $\tan \theta = \frac{3}{4}$
093 1 , $\frac{\pi}{4}$, $\frac{\sqrt{2}}{2}$, $\frac{\sqrt{2}}{2}$, $-\frac{\sqrt{2}}{2}$, $\frac{\sqrt{2}}{2}$, $-\frac{\sqrt{2}}{2}$, $-\frac{\sqrt{2}}{2}$, -1
094 $\sin \theta = -\frac{1}{2}$, $\cos \theta = -\frac{\sqrt{3}}{2}$, $\tan \theta = \frac{\sqrt{3}}{3}$
095 $\sin \theta = -\frac{\sqrt{3}}{2}$, $\cos \theta = \frac{1}{2}$, $\tan \theta = -\sqrt{3}$

096 $\sin \theta = \frac{\sqrt{2}}{2}$, $\cos \theta = \frac{\sqrt{2}}{2}$, $\tan \theta = 1$ **097** 10
098 -2 **099** ⑤

100 4, <, >, < **101** $\sin \theta > 0$, $\cos \theta > 0$, $\tan \theta > 0$
102 $\sin \theta < 0$, $\cos \theta > 0$, $\tan \theta < 0$
103 $\sin \theta > 0$, $\cos \theta < 0$, $\tan \theta < 0$
104 $\sin \theta < 0$, $\cos \theta < 0$, $\tan \theta > 0$ **105** 제2사분면
106 제3사분면 **107** 제4사분면
108 >, <, >, 1, <, 3, 1, 3
109 제3사분면 또는 제4사분면
110 제1사분면 또는 제4사분면 **111** ③
112 제2사분면 **113** $\cos \theta$

114 1, 1, 1, $\frac{16}{25}$, <, $-\frac{4}{5}$, $\frac{4}{3}$
115 $\cos \theta = \frac{5}{13}$, $\tan \theta = -\frac{12}{5}$
116 $\sin \theta = \frac{2\sqrt{2}}{3}$, $\tan \theta = 2\sqrt{2}$
117 $\cos \theta = -\frac{\sqrt{3}}{2}$, $\tan \theta = -\frac{\sqrt{3}}{3}$ **118** 2 **119** $\frac{2}{\sin \theta}$

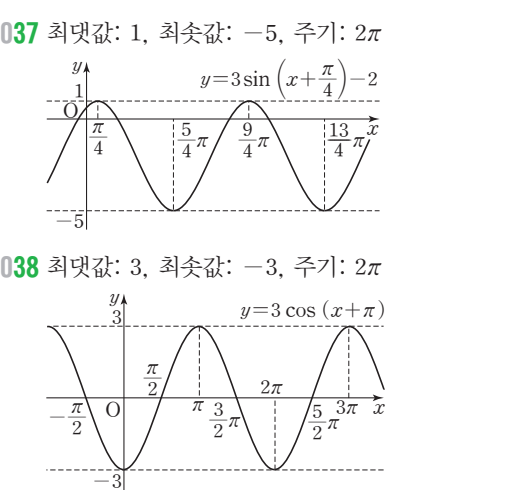
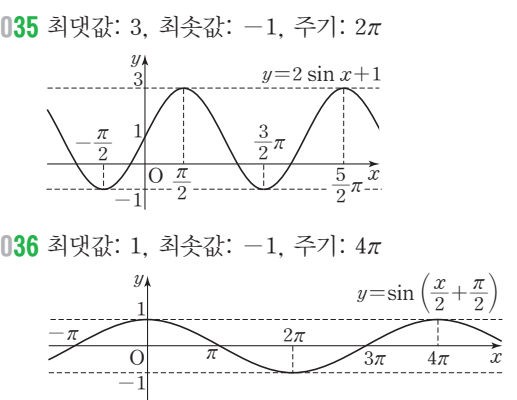
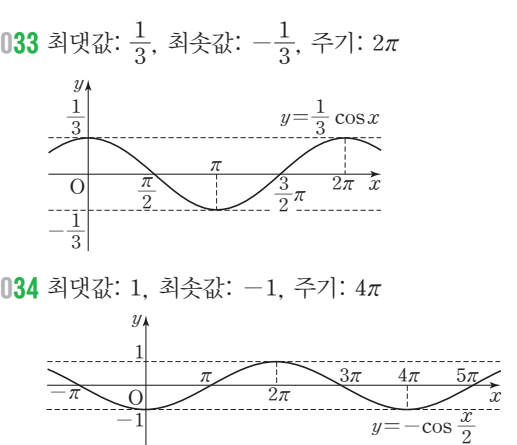
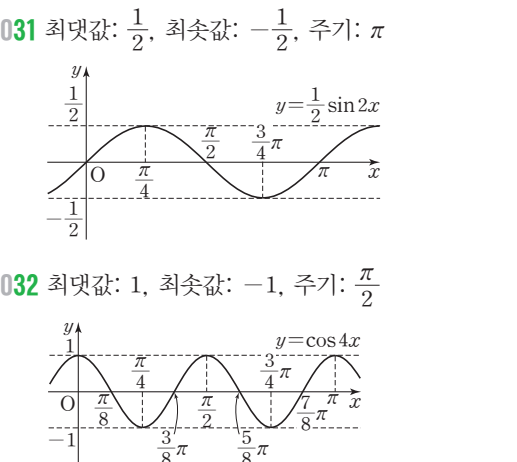
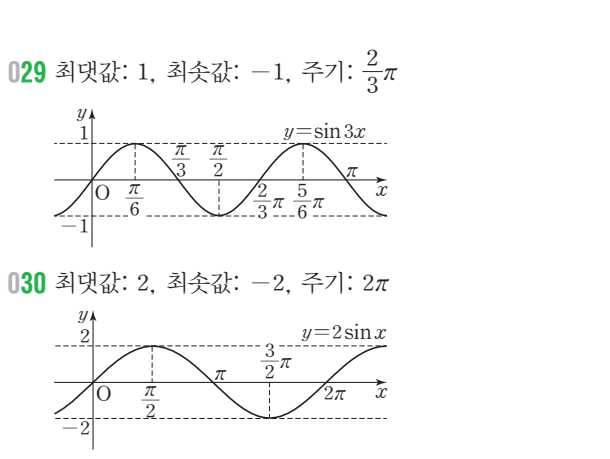
120 $\frac{1}{\cos \theta}$ **121** $\frac{1}{4}$, $\frac{1}{4}$, $-\frac{3}{8}$ **122** $-\frac{4}{3}$ **123** $-\frac{8}{3}$
124 $\frac{11}{16}$ **125** $\frac{4}{9}$ **126** $\frac{9}{4}$ **127** $\pm \frac{\sqrt{17}}{3}$ **128** $-\frac{13}{27}$
129 1, 1, $\frac{2}{5}$, $\frac{9}{5}$, <, <, $-\frac{3\sqrt{5}}{5}$ **130** $\sqrt{2}$ **131** $\frac{\sqrt{5}}{2}$
132 $-\frac{1}{2}$, $\frac{k}{2}$, $\frac{1}{4}$, $\frac{1}{4}$, k , $-\frac{3}{4}$ **133** $-\frac{4}{3}$ **134** $2\sqrt{6}$ **135** ②
136 2 **137** ④ **138** ④ **139** $-\frac{1}{3}$ **140** $\frac{\sqrt{5}}{2}$ **141** ①
142 $-\frac{2\sqrt{10}}{5}$ **143** $\frac{9}{2}$ **144** $-\frac{\sqrt{17}}{9}$ **145** ①
146 ① **147** $-\frac{1}{3}$ **148** ①

(실전유형)으로 중단원 점검
1 ⑤ **2** ⑤ **3** 180° **4** ③ **5** $12+4\pi$ **6** ④
7 1 **8** 제3사분면 **9** ③ **10** $2 \sin \theta$
11 ⑤ **12** $-\frac{4}{3}$ **13** ①

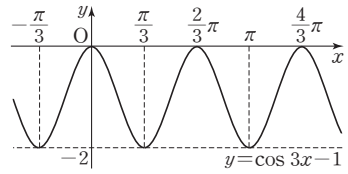
06 삼각함수의 그래프 135~161쪽

001 2, 5, 3, 3, 2, 1, 5 **002** -1 **003** 2
004 2, 3, 1, 1, 1 **005** -1 **006** -2 **007** 1 **008** -3
009 ⑤ **010** 2 **011** ①

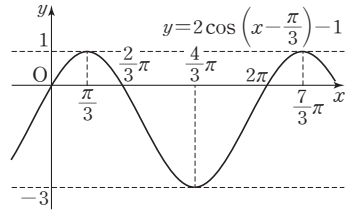
012 1, $-\pi$, $\frac{\pi}{2}$, 2π **013** 실수 **014** 1, -1
015 원점 **016** 2π **017** $-\frac{\pi}{2}$, π , 2π , -1 **018** -1, 1
019 y 축 **020** 2π **021** $-\frac{\pi}{2}$ **022** $-\pi$, $\frac{\pi}{2}$, $\frac{3}{2}\pi$ **023** $\frac{\pi}{2}$
024 원점 **025** π **026** $\frac{\pi}{2}$ **027** ③ **028** ㄴ, ㄷ



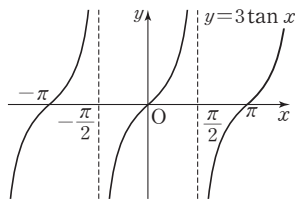
039 최댓값: 0, 최솟값: -2, 주기: $\frac{2}{3}\pi$



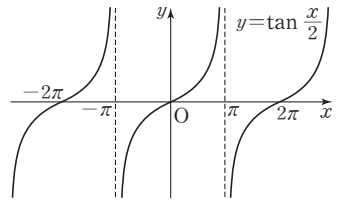
040 최댓값: 1, 최솟값: -3, 주기: 2π



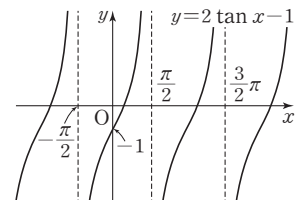
041 주기: π , 점근선의 방정식: $x = n\pi + \frac{\pi}{2}$ (단, n 은 정수)



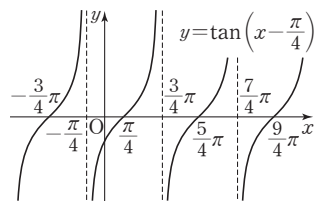
042 주기: 2π , 점근선의 방정식: $x = 2n\pi + \pi$ (단, n 은 정수)



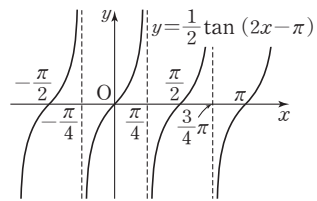
043 주기: π , 점근선의 방정식: $x = n\pi + \frac{\pi}{2}$ (단, n 은 정수)



044 주기: π , 점근선의 방정식: $x = n\pi + \frac{3}{4}\pi$ (단, n 은 정수)



045 주기: $\frac{\pi}{2}$, 점근선의 방정식: $x = \frac{n}{2}\pi + \frac{3}{4}\pi$ (단, n 은 정수)



046 12 047 ① 048 ③ 049 ⑤ 050 ③ 051 ②

052 $\frac{2}{3}$ 053 ① 054 11 055 ③ 056 ② 057 ①

058 $\frac{\pi}{6}, \frac{\pi}{6}, \frac{1}{2}$ 059 $\frac{\sqrt{2}}{2}$ 060 $\sqrt{3}$ 061 $\frac{\sqrt{3}}{2}$ 062 $\frac{\sqrt{3}}{2}$

063 1 064 $\frac{\pi}{3}, -\frac{\sqrt{3}}{2}$ 065 $\frac{\sqrt{3}}{2}$ 066 -1 067 $-\frac{1}{2}$

068 $\frac{\sqrt{2}}{2}$ 069 $-\sqrt{3}$ 070 $\frac{\pi}{4}, \frac{\pi}{4}, -\frac{\sqrt{2}}{2}$ 071 $-\frac{1}{2}$ 072 $-\frac{\sqrt{3}}{3}$

073 $\frac{1}{2}$ 074 $-\frac{1}{2}$ 075 1 076 $\frac{\pi}{3}, \frac{\pi}{3}, \frac{1}{2}$ 077 $-\frac{\sqrt{2}}{2}$

078 $-\sqrt{3}$ 079 $\frac{\sqrt{3}}{2}$ 080 $-\frac{\sqrt{3}}{2}$ 081 -1

082 $\frac{2}{3}\pi, \frac{\pi}{3}, \frac{\pi}{3}, -\frac{\sqrt{3}}{2}, 6, \frac{\pi}{6}, -\frac{\sqrt{3}}{2}, \frac{3}{4}$ 083 $\frac{\sqrt{3}}{2}$

084 $-\sqrt{3}$ 085 0 086 $2\sin\theta$ 087 0 088 1

089 1 090 0.7986 091 0.5736

092 -1.3764 093 ④ 094 $\frac{3+\sqrt{3}}{2}$

095 0.3620 096 ④ 097 $-\frac{2}{\sin\theta}$ 098 ③

099 $\frac{17}{2}$ 100 -2 101 ② 102 -3 103 2 104 ⑤

105 -3π 106 3 107 9

108 $\frac{5}{3}\pi, \frac{5}{3}\pi, \frac{5}{3}\pi$ 109 $x = \frac{3}{4}\pi$

110 $x = \frac{7}{6}\pi$ 또는 $x = \frac{11}{6}\pi$ 111 $x = \frac{\pi}{4}$ 또는 $x = \frac{7}{4}\pi$

112 $x = \frac{\pi}{3}$

113 $\frac{7}{4}\pi, \frac{7}{4}\pi, \frac{7}{4}\pi, \frac{3}{4}\pi, \frac{7}{4}\pi, \frac{3}{4}\pi, \frac{3}{4}\pi, \frac{\pi}{2}$

114 $x = \frac{\pi}{3}$ 또는 $x = \frac{2}{3}\pi$ 115 $x = \frac{\pi}{4}$

116 1, 1, 1, 1, 1, $\frac{4}{3}\pi, 0, \frac{4}{3}\pi, 0, \frac{4}{3}\pi$

117 $x = 0$ 또는 $x = \frac{\pi}{4}$ 또는 $x = \frac{3}{4}\pi$ 또는 $x = \pi$

118 $x = \frac{\pi}{6}$ 또는 $x = \frac{5}{6}\pi$ 119 $\frac{\pi}{3}$ 120 ⑤ 121 ③

122 ③ 123 ① 124 $x = \frac{\pi}{3}$ 또는 $x = \frac{4}{3}\pi$ 125 ①

126 $x = \frac{\pi}{4}$ 127 ②

128 $\frac{5}{6}\pi, \frac{5}{6}\pi, \frac{5}{6}\pi$ 129 $\frac{\pi}{4} \leq x < \frac{\pi}{2}$

130 $0 \leq x \leq \frac{4}{3}\pi$ 또는 $\frac{5}{3}\pi \leq x < 2\pi$ 131 $\frac{2}{3}\pi \leq x \leq \frac{4}{3}\pi$

132 $\frac{\pi}{2} < x < \frac{2}{3}\pi$

133 $\frac{5}{3}\pi, \frac{5}{3}\pi, \frac{5}{3}\pi, \frac{7}{6}\pi, \frac{5}{3}\pi, \frac{7}{6}\pi, \frac{7}{6}\pi, \frac{7}{6}\pi, \frac{3}{2}\pi$

134 $0 \leq x \leq \frac{\pi}{2}$ 또는 $\frac{11}{6}\pi \leq x < 2\pi$ 135 $\frac{7}{12}\pi < x < \frac{5}{6}\pi$

136 1, 1, 0, 1, 1, $\frac{\pi}{2}, \frac{\pi}{2}, 0, 1, \frac{\pi}{2}, \frac{\pi}{2}, \pi$

137 $\frac{\pi}{3} < x < \frac{2}{3}\pi$ 또는 $\pi < x < 2\pi$

138 $0 \leq x \leq \frac{\pi}{3}$ 또는 $x = \pi$ 또는 $\frac{5}{3}\pi \leq x < 2\pi$ 139 $\frac{\pi}{6}$

140 ② 141 $\frac{7}{12}\pi \leq x \leq \frac{23}{12}\pi$ 142 $\frac{5}{4}$ 143 ⑤

144 ⑤ 145 $-\frac{\pi}{3} \leq x \leq \frac{\pi}{4}$ 146 ② 147 $\frac{\sqrt{3}}{2}$ 148 ①

실전유형으로 중단원 점검

1 11 2 ③ 3 ⑤ 4 1 5 2π 6 ③

7 $-2\sin x$ 8 16 9 $\frac{1}{3}$ 10 ④ 11 ④

12 ① 13 $0 \leq x < \frac{\pi}{3}$ 또는 $\frac{5}{3}\pi < x < 2\pi$

07 사인법칙과 코사인법칙

163~181쪽

001 30, 30, $\frac{1}{2}, 3\sqrt{2}$ 002 $4\sqrt{3}$ 003 $6\sqrt{3}$ 004 $\sqrt{6}$

005 45, 45, $\frac{\sqrt{2}}{2}, 1, 90$ 006 30° 007 60° 또는 120°

008 45° 009 60, 60, $\frac{\sqrt{3}}{2}, \sqrt{3}$ 010 2 011 $\sqrt{2}$

012 60° 또는 120° 013 $3k, 5k, b, c, 3k, 5k, 4, 3, 5$

014 5 : 6 : 7

015 1, 30, 3, 90, 2, 60, 30, 90, 60, $\frac{1}{2}, \frac{\sqrt{3}}{2}, 1, 2, \sqrt{3}$

016 $\sqrt{2} : 1 : 1$ 017 ③ 018 ③ 019 $36\sqrt{2}$ 020 16π

021 ⑤ 022 $\frac{7}{16}$ 023 10 024 ④ 025 ④ 026 3

027 ② 028 ① 029 $b=c$ 인 이등변삼각형 030 ③ 031 ③

032 4, 60, 16, $\frac{1}{2}, 12, 2\sqrt{3}$ 033 $\sqrt{5}$ 034 1 035 $\sqrt{14}$

036 $\sqrt{37}$ 037 $\sqrt{34}$ 038 $4, 2\sqrt{3}, \frac{1}{2}, 60$ 039 45° 040 30°

041 90° 042 120° 043 150° 044 2 045 ③ 046 ②

047 ④ 048 $\sqrt{51}$ 049 ② 050 ③ 051 $-\frac{1}{8}$ 052 ④

053 ⑤ 054 120° 055 ③ 056 $b=c$ 인 이등변삼각형

057 ④ 058 ① 059 $5\sqrt{7}$ km 060 ④

061 $2\sqrt{3}, 60, 2\sqrt{3}, \frac{\sqrt{3}}{2}, 6$ 062 9 063 14 064 15

065 2, $\sqrt{5}, 3$ 066 $30\sqrt{3}$ 067 $4, \frac{\pi}{6}, 16, \frac{1}{2}, 8\sqrt{3}$

068 54 069 8, 9, 8, $\frac{2}{7}, \frac{2}{7}, \frac{3\sqrt{5}}{7}, \frac{3\sqrt{5}}{7}, 12\sqrt{5}$ 070 $\frac{3\sqrt{15}}{4}$

071 $6\sqrt{14}$ 072 $9+3\sqrt{3}$ 073 ③ 074 135° 075 ②

076 ③ 077 $\frac{18}{5}$ 078 ④ 079 ② 080 $48\sqrt{3}$ 081 $9\sqrt{3}$

082 $\frac{7\sqrt{3}}{3}$ 083 ③ 084 ②

085 $24\sqrt{3}$ 086 $\overline{BC}$, 60, $\overline{DC}$, 120, 5, $\frac{\sqrt{3}}{2}, 3, \frac{\sqrt{3}}{2}, \frac{21\sqrt{3}}{4}$

087 $5+4\sqrt{3}$ 088 $\overline{BC}$, 6, $\frac{\sqrt{3}}{2}, 12\sqrt{3}$ 089 10

090 12 091 15 092 $\overline{BD}$, 6, $\frac{\sqrt{3}}{2}, 12\sqrt{3}$ 093 5

094 8 095 $\frac{9\sqrt{3}}{2}$ 096 44 097 ② 098 $13\sqrt{3}$ 099 ②

100 ④ 101 $6\sqrt{3}$ 102 $6\sqrt{6}$ 103 30° 104 ⑤

실전유형으로 중단원 점검

1 ④ 2 $6\sqrt{2}$ 3 ③ 4 $5\sqrt{2}$ m 5 ① 6 $\frac{3}{4}$

7 $a=c$ 인 이등변삼각형 8 ③ 9 ⑤ 10 $\frac{8\sqrt{7}}{7}$

11 $\frac{39\sqrt{3}}{4}$ 12 ④ 13 ③

08 등차수열과 등비수열

184~219쪽

001 첫째항: 1, 제4항: $\frac{1}{7}$ 002 첫째항: 2, 제4항: 11

003 첫째항: -3, 제4항: -9 004 3, 5, 7, 9, 11

005 -5, -9, -13, -17, -21

006 4, 1, -4, -11, -20 007 1, 3, 7, 15, 31

008 $1, \frac{1}{4}, \frac{1}{7}, \frac{1}{10}, \frac{1}{13}$ 009 $a_n = 3n$

010 $a_n = n^3$ 011 $a_n = (-1)^n$ 012 $a_n = \frac{n}{n+1}$

013 $a_n = n(n+1)$ 014 ③ 015 $a_n = 10^n - 1$ 016 ④

017 공차: $2/5, 7$ 018 공차: $5/-3, 7$

019 공차: $-6/5, -13$ 020 공차: $-3/-2, -5$

021 공차: $\frac{1}{2}/1, \frac{3}{2}$ 022 공차: $-\frac{2}{3}/\frac{2}{3}, -\frac{2}{3}$

023 $a_n = 7n - 10$ 024 $a_n = -2n + 12$

025 4, 4, 3, 4, 3, $3n+1$ 026 $a_n=4n-24$
 027 $a_n=-5n+2$ 028 $a_n=-\frac{3}{2}n+\frac{17}{2}$ 029 6
 030 -3 031 4, 1, 3, 1, 3, 1, 3, $3n-2$
 032 $a_n=2n-9$ 033 $a_n=-4n+29$ 034 $a_n=-\frac{1}{3}n$
 035 -16 036 $\frac{7}{2}$ 037 43 038 -33 039 -17 040 10
 041 44 042 ④ 043 41 044 8 045 ①
 046 $a_n=-7n+32$ 047 ③ 048 제15항
 049 제11항 050 제9항 051 제20항
 052 ② 053 36 054 ③ 055 ④

056 7 057 -5 058 2 059 $x=5, y=11$
 060 $x=-5, y=-13$ 061 $x=1, y=\frac{13}{5}$
 062 $a, a, a, 12, 4, 4, 4, 4, 16, 16, 9, \pm 3, 4, 7$
 063 -5, -3, -1 064 -2, 2, 6 065 1, 8, 15
 066 50 067 ④ 068 12 069 40 070 ⑤ 071 -80
 072 4 073 ④ 074 ⑤

075 308 076 32 077 276 078 -18 079 616
 080 -140 081 408 082 -85
 083 2, 8, -10, 7, -10, 7 084 첫째항: -3, 공차: 2
 085 첫째항: 3, 공차: -1 086 첫째항: 16, 공차: -2
 087 17, -2, $-2n+19, -2n+19, 9, 9, 9, 9, 81$
 088 91 089 -72 090 -156 091 ③ 092 ①
 093 294 094 ③ 095 ⑤ 096 12 097 720 098 ④
 099 -69 100 8 101 ② 102 ③ 103 ③ 104 ⑤
 105 840

106 $2n-4, -2, 1, 2n-4$ 107 $a_n=4n-1$
 108 $a_n=-2n-3$ 109 $a_n=-4n+7$ 110 $a_n=-6n+10$
 111 $2n+1, 4, 4, 2n+1$
 112 $a_1=-3, a_n=6n-7 (n \geq 2)$
 113 $a_1=-4, a_n=-4n+5 (n \geq 2)$ 114 ① 115 ②
 116 17 117 ④ 118 15 119 ②

120 공비: 2 / 4, 8 121 공비: -2 / -10, 20
 122 공비: $\frac{1}{3} / 1, \frac{1}{27}$ 123 공비: $\sqrt{2} / \sqrt{2}, 2$
 124 공비: $-\frac{1}{5} / -5, -\frac{1}{5}$ 125 공비: 10 / 0.01, 0.1
 126 $a_n=4^{n-1}$ 127 $a_n=5 \times \left(\frac{1}{6}\right)^{n-1}$
 128 2, -6, -3, 2, -3 129 $a_n=5 \times (\sqrt{5})^{n-1}$

130 $a_n=\left(\frac{1}{10}\right)^{n-4}$ 131 $a_n=4 \times \left(-\frac{2}{3}\right)^{n-1}$ 132 2
 133 $\frac{1}{2}$ 134 4, 27, 3, 2, 2, 3, 2
 135 $a_n=5 \times (-2)^{n-1}$ 136 $a_n=(-1)^{n-1}$
 137 $a_n=\left(\frac{1}{3}\right)^{n-7}$ 138 $\frac{1}{256}$ 139 243 140 64 141 $81\sqrt{3}$
 142 $\frac{1}{81}$ 143 1024 144 첫째항: 10, 공비: $\frac{1}{25}$ 145 $40\sqrt{2}$
 146 제9항 147 ① 148 4 149 ① 150 ③
 151 제6항 152 제6항 153 ④ 154 ①
 155 ④ 156 400 157 ②

158 -6 또는 6 159 $-4\sqrt{5}$ 또는 $4\sqrt{5}$
 160 -3 또는 3 161 $\sqrt{6}$ 162 1 163 $\frac{1}{3}$
 164 $ar, ar, r, ar, 3, 3, r, r, 10, 1, \frac{1}{3}, \frac{1}{3}, 1, 3$
 165 3, -6, 12 166 -25, 5, -1 167 $\frac{15}{8}$ 168 16
 169 $3\sqrt{3}$ 170 ④ 171 -8 172 ③ 173 27 174 ③
 175 ⑤

176 364 177 -682 178 $\frac{93}{2}$ 179 120
 180 $2(3^{12}-1)$ 181 $1-2^{18}$ 182 762 183 $\frac{484}{9}$
 184 3, 6, 2, 125, 5, $\frac{2}{31}, \frac{2}{31}, 5$
 185 첫째항: $\frac{3}{40}$, 공비: 3 186 첫째항: $\frac{6}{11}$, 공비: -2
 187 ④ 188 -510 189 ④ 190 6 191 ③
 192 ③ 193 -2 194 ③ 195 ⑤ 196 ③ 197 -14
 198 ②

199 2, 3, 10, 28 200 2, 3, 10, 1.5, 30
 201 $10(1+0.02)^{10}, 10, 0.02, 10, 1.2, 102$
 202 126만 원 203 $10(1+0.03)^8, 8, 10, 9, 1.3, 100$
 204 1250만 원 205 506만 원 206 ①

실전유형으로 중단원 점검
 1 ② 2 ③ 3 ③ 4 ③ 5 2 6 371
 7 -275 8 ③ 9 ④ 10 22 11 7 12 ②
 13 ② 14 ⑤ 15 ③ 16 $\frac{3}{1024}$ 17 ④ 18 ⑤
 19 146

09 수열의 합 220~237쪽

001 $3+6+9+12+15$ 002 $1+3+5+\dots+19$
 003 $-1+2-3+\dots+8$ 004 $5^3+5^4+5^5+5^6+5^7$
 005 $5^2+6^2+7^2+\dots+16^2$
 006 $8+13+18+\dots+(5n+3)$
 007 $1+7+7^2+\dots+7^{n-1}$ 008 $\frac{1}{2}+\frac{1}{5}+\frac{1}{8}+\dots+\frac{1}{3n-1}$
 009 $\frac{1}{2}+\frac{1}{6}+\frac{1}{12}+\dots+\frac{1}{n(n+1)}$ 010 $\sum_{k=1}^n 5k$
 011 $\sum_{k=1}^n (4k+3)$ 012 $\sum_{k=1}^n \frac{1}{2^{k+1}}$ 013 $\sum_{k=1}^n \frac{1}{k^2}$
 014 $\sum_{k=1}^6 2$ 015 $\sum_{k=1}^{20} 3^k$ 016 $\sum_{k=1}^{12} k(k+2)$ 017 $\sum_{k=1}^{14} (3k-2)$
 018 ③ 019 5 020 2 021 150 022 $\neg, \sqcup, \sqcap$
 023 ② 024 $\frac{3}{5}$

025 10, 10, 3, 5 026 -1 027 8 028 13 029 34
 030 3, 5, 37 031 32 032 0 033 10, 10, 10, 120
 034 -200 035 135 036 1 037 155 038 ②
 039 ① 040 52 041 ③ 042 9 043 ① 044 247
 045 ① 046 80 047 ③ 048 ④ 049 125 050 -4

051 45 052 285 053 2025 054 88 055 77 056 96
 057 462 058 1015 059 $k, 11, 2, 96$ 060 322 061 1935
 062 n^2+2n 063 $n, k, k, 2n+1, n+1, n+2$
 064 $\frac{n(n+1)(4n-1)}{6}$ 065 $\frac{n(2n+1)(2n-1)}{3}$
 066 $\frac{n(n+1)(n-7)}{3}$ 067 ③ 068 150 069 ④
 070 2 071 ③ 072 ② 073 (1) 385 (2) 750 (3) 210
 074 ⑤ 075 ③ 076 ③ 077 2090 078 ② 079 16
 080 56 081 ③

082 $\frac{15}{16}$ 083 $\frac{7}{24}$ 084 $\frac{4}{27}$ 085 $\frac{4}{25}$ 086 $\frac{58}{45}$
 087 $k+1, n+1, \frac{1}{n+1}, n$ 088 $\frac{n}{2(n+2)}$
 089 $\frac{n}{2n+1}$ 090 $\frac{n(5n+13)}{12(n+2)(n+3)}$ 091 5
 092 $4-\sqrt{2}$ 093 6 094 $\frac{3\sqrt{2}}{2}$ 095 $\frac{\sqrt{2}-\sqrt{3}+3}{2}$
 096 $\sqrt{k}, \sqrt{n}, \sqrt{n+1}-1$ 097 $\sqrt{n+4}-2$
 098 $\frac{\sqrt{2n+1}-1}{2}$ 099 $\frac{\sqrt{3n+2}-\sqrt{2}}{3}$ 100 ⑤ 101 37
 102 ④ 103 ② 104 $5-\sqrt{2}$ 105 ④

실전유형으로 중단원 점검

1 ③ 2 ① 3 11 4 6 5 ② 6 ②
 7 5 8 ⑤ 9 ③ 10 610 11 ① 12 $3\sqrt{3}$

10 수학적 귀납법 238~249쪽

001 125 002 -67 003 9 004 12 005 3
 006 $a_1=1, a_{n+1}=a_n+3 (n=1, 2, 3, \dots)$
 007 $a_1=11, a_{n+1}=a_n-4 (n=1, 2, 3, \dots)$
 008 $a_1=\frac{3}{2}, a_{n+1}=a_n-\frac{1}{2} (n=1, 2, 3, \dots)$
 009 -1, 5, -1, $-n+6$ 010 $a_n=2n+1$
 011 $a_n=6n-4$ 012 $a_n=-2n+5$
 013 $a_1=2, a_{n+1}=2a_n (n=1, 2, 3, \dots)$
 014 $a_1=1, a_{n+1}=-3a_n (n=1, 2, 3, \dots)$
 015 $a_1=25, a_{n+1}=-\frac{1}{5}a_n (n=1, 2, 3, \dots)$
 016 -2, 1, -2, $(-2)^{n-1}$ 017 $a_n=3 \times \left(\frac{1}{2}\right)^{n-1}$
 018 $a_n=5^{n-1}$ 019 $a_n=2 \times 3^{n-1}$ 020 108 021 ③
 022 ② 023 ⑤ 024 11 025 1023 026 ① 027 99
 028 ② 029 ① 030 3 031 ①
 032 $a_{n+1}=\frac{1}{2}a_n+10 (n=1, 2, 3, \dots)$
 033 (1) 24 (2) $a_{n+1}=2a_n-8 (n=1, 2, 3, \dots)$ 034 63

035 1, $k+1, k+1, k+1, \frac{(k+1)(k+2)}{2}$
 036 풀이 참조 037 25, 25, 2, $(k+1)^2, (k+1)^2$
 038 풀이 참조 039 ④ 040 ⑤ 041 ③ 042 ①
 043 풀이 참조 044 (㉠) $1+kh$ (㉡) kh^2 (㉢) $k+1$
 045 풀이 참조

실전유형으로 중단원 점검

1 24 2 ③ 3 ① 4 ⑤ 5 1 6 ④
 7 19 8 (1) 4 (2) $a_{n+1}=\frac{2}{3}a_n+2 (n=1, 2, 3, \dots)$
 9 ④ 10 풀이 참조 11 36