

2025학년도 숭실대학교 편입학 시험 문제 (자연계)

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수험번호 :

성명 :

문항배점 : [1-10] 1점 / [11-20] 2.5점 / [21-25] 3점 / [26-31] 1.7점 / [32-44] 2점 / [45-50] 2.3점

[1-2] Choose the one that is grammatically NOT correct. (각 1점)

[1] The myth ①which practically everyone ②willing to work hard could prosper ③was widely promulgated ④by the railroads' land offices.

[2] ①Attempt to protect themselves from speculation, the most radical reformers urged that homestead land ②be made inalienable since obviously land ③that could not be bought or sold could not be speculated upon ④either.

[3-6] Choose the most appropriate word for the blank. (각 1점)

[3] The debate grew heated as both parties tried to _____ their positions with evidence and logical arguments.

- ① contradict ② reinforce ③ obscure ④ abandon

[4] Many companies are striving to adopt sustainable practices to reduce their _____ impact as well as to make money.

- ① cooperative ② lucrative ③ environmental ④ intrusive

[5] The company has decided to _____ its operations to new international markets in response to increasing global demand.

- ① condense ② expand ③ contradict ④ evaporate

[6] Despite her efforts to explain the situation, his reaction remained _____ and difficult to predict.

- ① erratic ② lucid ③ systematic ④ consistent

[7-10] Choose the expression closest in meaning to the underlined. (각 1점)

[7] The scientist presented her findings with clarity, ensuring that even non-experts could understand the complex material.

- ① confusion ② ambiguity ③ lucidity ④ eloquence

[8] Her speech was so eloquent that it moved the audience to tears.

- ① abrupt ② vague ③ monotonous ④ persuasive

[9] The athlete's rigorous training regimen enabled her to surpass her personal record in the competition.

- ① program ② trainer ③ institution ④ elaboration

[10] The book provided a comprehensive overview of the country's history, covering all major events in detail.

- ① incomplete ② thorough ③ biased ④ selective

[11-13] Read the following passage and answer the questions. (각 2.5점)

I have an entire file in my office of newspaper articles which express concern about illegitimate words that should not have been included in the dictionary, including "LOL" when it got into the *Oxford English Dictionary* and "defriend" when it got into the *Oxford American Dictionary*. I also have articles expressing concern about "invite" as a noun, "impact" as a verb, because only teeth can be impacted, and "incentivize" is described as "boorish, bureaucratic misspeak."

Now, it's not that dictionary editors ignore these kinds of attitudes about language. They try to provide us some guidance about words that are considered slang or informal or offensive, often through usage labels, but they're in something of a bind, because they're trying to describe what we do, and they know that we often go to dictionaries to get information about how we should use a word well or appropriately. In response, the *American Heritage Dictionaries* include usage notes. Usage notes tend to occur with words that are troublesome in one way, and

one of the ways that they can be troublesome is that they're changing meaning. Now usage notes involve very human decisions, and I think, as dictionary users, we're often not as aware of those human decisions as we should be. To show you what I mean, we'll look at an example, but before we do, I want to explain what the dictionary editors are trying to deal with in this usage note.

Think about the word "peruse" and how you use that word. I would guess many of you are thinking of skim, scan, reading quickly. Some of you may even have some walking involved, because you're perusing grocery store shelves, or something like that. You might be surprised to learn that if you look in most standard dictionaries, the first definition will be to read carefully, or pore over. *American Heritage* has that as the first definition. They then have, as the second definition, skim, and next to that, they say "usage problem." And then they include a usage note, which is worth looking at.

[11] Which of the following would be the most suitable title?

- ① The Evolution of Slang: A Modern Dictionary
② The Importance of Proper Grammar and Vocabulary
③ How Dictionaries Shape Our Understanding of the World
④ The Dictionary Dilemma: Describing vs. Prescribing Language

[12] The writer's office contains newspaper articles about:

- ① dictionary reform proposals
② language evolution studies
③ controversial word additions
④ modern slang research

[13] Which of the following best describes how most people use the word "peruse" versus its traditional dictionary definition?

- ① Most people use it to mean "read carefully," which matches the primary dictionary definition.
② Most people use it to mean "skim or scan," while dictionaries primarily define it as "read carefully."
③ Most people use it while walking through stores, which is the primary dictionary definition.
④ Most people don't use this word at all, according to the passage.

[14-15] Read the following passage and answer the questions. (각 2.5점)

Compstat (which originally stood for "computer statistics") is a crime analysis and accountability system, first developed by the New York Police Department in 1994. Pioneered under Police Commissioner William J. Bratton, Compstat uses Geographical Information Systems (GIS) to track the incidence of crime. It involves the collection, analysis, and mapping of crime data in a rapid time-frame to discover crime patterns, as well as entailing weekly meetings at which police managers are held accountable for the results in their precinct. The data are used to pinpoint hot spots in which crime is concentrated, and to deploy police resources accordingly. In the decades since it was rolled out in New York, some variation of Compstat has been adopted in many large American cities. Compstat does seem to have contributed to the decline in reported crime—and indeed, to the decline of crime itself.

Yet in city after city, there have been questions about the accuracy and reliability of crime statistics. Insofar as Compstat is a system of informational and indicative metrics, it seems genuinely useful. But when the mayor pressures the top brass to show improvements in the overall numbers, and that pressure, in turn, is placed on the district commanders who are led to

believe that their career advancement depends on a steady diminution in crime, the message sometimes heard by lower-level police officers is that they will be penalized for an increase in reported crime. And that creates pressures for fudging the numbers.

Such problems preceded the rise of Compstat and exist independent of it. In 1976 the social psychologist Donald T. Campbell noted that President Richard Nixon's declared crackdown on crime "had as its main effect the corruption of crime-rate indicators, achieved through underrecording and downgrading the crimes to less serious classifications." And (A)that continues.

[14] Which statement best describes what (A) refers to?

- ① the classification of serious crimes
- ② President Nixon's crackdown on crime
- ③ the rise of Compstat
- ④ the corruption of crime-rate indicators

[15] Which of the following best represents a potential issue with the Compstat system?

- ① Pressure to show improved statistics may lead to data manipulation.
- ② Weekly meetings create excessive administrative burden.
- ③ The geographical information systems are technologically outdated.
- ④ Police officers lack proper training to use the system effectively.

[16-18] Read the following passage and answer the questions. (각 2.5점)

Adults are worried about how kids are learning. In the absence of clear data, a lot of parents and educators are fearful of the effects that digital technologies are having on our children and their ability to learn. Slogans, in headline format, they fear, dominate the information seeping into young people's brains, with kids developing too few analytical skills along the way. Kids, the worry goes, are channel-surfing through their education, and their brains are being rewired in the process.

Digital Natives' learning differently from the way their parents did when they were growing up doesn't mean that Digital Natives are not learning. Take, for example, the way that Digital Natives learn about events in the news. Many older people assume that because Digital Natives are not reading newspapers and magazines, but instead absorbing news all day long on various websites (and from comedy programs and other unconventional sources), their understanding of current events is superficial and limited to headlines. And worse, these headlines, parents and teachers worry, come from biased websites, rather than authoritative organizations like the *New York Times* or the big television networks, NBC, ABC, and CBS. If it's not outright wrong, the version of the story Digital Natives encounter online must be superficial, many people fear.

These assumptions are wrong, because they underestimate the depth of knowledge that Digital Natives are obtaining on the Web. They also miss a key feature of how Digital Natives experience news: interacting with information in constructive ways. Digital Natives often access much more information about a topic they are interested in than kids of previous generations ever could have. A recent study of young people and their news-gathering habits confirms these changes. The study found, for example, that young Americans don't read the daily newspaper. Digital Natives pick up bits and pieces of news and information as they go about their day, not in a single sitting at the breakfast table in the morning or in front of the television in the evening. And often, they in fact engage more with the material than those who are used to more traditional news formats, by virtue of writing a post about the idea on a blog or sharing it with a friend on Facebook or over instant messaging.

[16] Which of the following would be the most suitable title?

- ① The Dangers of Digital Technology for Young Minds
- ② The Importance of Authoritative News Sources for Children
- ③ The Urgent Need to Adopt Digital Learning Methods
- ④ How Digital Natives Are Changing the Landscape of Learning

[17] What is the main concern of many adults regarding children and digital technologies?

- ① Children are spending too much time playing video games.
- ② Digital technologies are hindering children's ability to learn and develop analytical skills.
- ③ Children are becoming too reliant on social media for communication.
- ④ Digital technologies are making children less physically active.

[18] How do Digital Natives typically learn about current events?

- ① through a combination of various websites, comedy programs, and other unconventional sources throughout the day
- ② primarily through reading traditional newspapers and magazines
- ③ by watching nightly news broadcasts on major television networks
- ④ through in-depth analysis of articles from authoritative organizations like the *New York Times*

[19-20] Read the following passage and answer the questions. (각 2.5점)

Similar questions can be asked about social solidarity and civic virtue. Should we try to conserve civic virtue by telling citizens to go shopping until their country needs to call upon them to sacrifice for the common good? Or do civic virtue and public spirit atrophy with disuse? Many moralists have taken the second view. Aristotle taught that virtue is something we cultivate with practice: "we become just by doing just acts, temperate by doing temperate acts, brave by doing brave acts."

Rousseau held a similar view. The more a country asks of its citizens, the greater their devotion to it. "In a well-ordered city every man flies to the assemblies." Under a bad government, no one participates in public life "because no one is interested in what happens there" and "domestic cares are all-absorbing." Civic virtue is built up, not spent down, by strenuous citizenship. Use it or lose it, Rousseau says, in effect. "As soon as public service ceases to be the chief business of the citizens, and they would rather serve with their money than with their persons, the state is not far from its fall."

Sir Dennis H. Robertson, an economist and former student of John Maynard Keynes, offers his observation in a lighthearted, speculative spirit. But the notion that love and generosity are scarce resources that are depleted with use continues to exert a powerful hold on the moral imagination of economists, even if they don't argue for it explicitly. It is not an official textbook principle, like the law of supply and demand. No one has proved it empirically. It is more like an adage, a piece of folk wisdom, to which many economists still subscribe.

[19] What is the relationship between civic virtue and its practice?

- ① Civic virtue is a finite resource that diminishes with use, similar to a financial budget.
- ② Civic virtue is best preserved by minimizing demands on citizens and allowing them to focus on private life.
- ③ Civic virtue is an innate quality that remains constant regardless of a citizen's actions.
- ④ Civic virtue is cultivated and strengthened through practice and active participation in public life.

[20] What does Rousseau believe happens when citizens prioritize private interests over public service?

- ① The state becomes more democratic.
- ② Citizens lose interest in public life.
- ③ Civic virtue strengthens.
- ④ Public assemblies become more vibrant.

[21-23] Read the following passage and answer the questions. (각 3점)

Most historians of deaf education have explained the pedagogical reversal by pointing to generational change. Both Harlan Lane and Douglas Baynton argue that the transformation of deaf education from a manually based system to an orally based system can be explained in this way. Lane concludes, “incredible as it may seem, it took only a small voice of hearing educators and businessmen, late in the last century, to release a tidal wave of oralism that swept over Western Europe, drowning all its signing communities. In America, the submersion of sign language was nearly as complete.” And Baynton believes that manualism appealed, for a variety of reasons, to a generation of educators raised in the antebellum period, while oralism made more cultural sense to those who came of age after the Civil War.

And yet the first cohesive arguments for oral education came in 1844 from Horace Mann, a figure the accounts by Lane and Baynton disregard. (A) Lane views Mann as a dupe, first of German teachers of the deaf, whose articulation teaching greatly impressed him on a visit to Germany in 1843, and then of Samuel Gridley Howe, who, according to Lane, convinced Mann to praise oralism in order to help Howe “wrest the education of the deaf from Hartford* and place it under his guidance at the Perkins Institute of the Blind.” (B) This view ignores the real possibility that Mann may have his own reasons for taking an interest in the issue of deaf education. Baynton likewise downplays Mann’s influence in this regard, arguing that though he was “America’s pre-eminent educator,” the results of his efforts on behalf of oralism were (1)“negligible.” According to Baynton, the 1840s were not the right cultural environment for oralism. Manualists romanticized deafness, seeing deaf people as closer to God and blessed by God with a special gift, sign language, that rescued them from silent ignorance. (C) But when Clark School for the Deaf, the first oral school in New England, opened in 1876, the ghost of Mann hovered over the event. Howe invoked Mann’s memory at the legislative hearings held to decide the issue of the proposed school’s funding and methods. (D)

*Hartford: 1817년 설립된 미국 청각 장애인 교육 및 지도를 위한 정신 병원

[21] Which of the following best fits in?

Mann’s scientific oralism could not compete with this evangelical piety.

- ① (A) ② (B) ③ (C) ④ (D)

[22] Which of the following best replaces (1)?

- ① trivial ② neglected ③ regretted ④ unforgettable

[23] Which of the following is true?

- ① The pedagogical change was easily accepted among deaf educators.
- ② Mann led Howe to praise oralism.
- ③ Manualism succeeded to replace oralism in the field of deaf education.
- ④ Howe used Mann’s ideas and efforts to finance Clark School for the Deaf.

[24-25] Read the following passage and answer the questions. (각 3점)

In the Middle English period, English speakers had become accustomed to importing words from other languages. Words from French, Latin and Greek began to infiltrate English even before the existence of a written standard and, before the end of the Middle Ages, this trickle turned into a torrent. During the Renaissance more than 10,000 recorded new words poured into the language. Today many of these words, such as *adapt*, *benefit* and *exist*, have made their way into everyday language. But most of the Latin loanwords belong to the language of learning and science.

When Renaissance figures like Thomas More and Francis Bacon

wrote in English, they often embellished their native tongue with Latinisms. More is the first recorded user of *abolition*, *contradictory*, *exaggerate*, *hyperbole*, *monopoly*, *paradox* and many other words.

The classical languages of Latin and Greek have until recently held a strong position at prestigious English schools and universities, notably the elite universities of Oxford and Cambridge. For a student of high or humble birth, a classical education could open doors to high office.

The influx of Latin words was greater in English than in any other European language, with the possible exception of French. Some words previously borrowed from French were remodelled into closer resemblance with their Latin originals. In some cases (A) this linguistic pedantry overstepped the mark, and English acquired a number of “false Latinisms”—for example, *advance* with the letter *d* inserted (compare French *avance*), and *debt* with an additional *b* (compare French *dette*). Since many classical words had already been borrowed through French, there also appeared doublets—two words of the same origin but with different meaning, such as *corps* vs. *corpse* and *story* vs. *history*.

[24] Which of the following best interprets (A)?

- ① Latin words overwhelmed English’s Germanic vocabulary.
- ② Scholars succeeded in purifying English of non-Latin elements.
- ③ Overzealous Latinization created incorrect English words.
- ④ Remodeling French words to Latin forms refined English.

[25] Which of the following is true?

- ① Latin words entered English via French, creating a linguistic hierarchy.
- ② Classical education was limited to nobility in England.
- ③ Doublets arose solely from simultaneous Latin and French borrowings.
- ④ English borrowed more Latin words than most European languages.

<수학 문제는 뒷면에 계속됩니다>

[26] 극한 $\lim_{h \rightarrow 0} \frac{1}{h} \left[8 \left(\frac{1}{2} + h \right)^8 - \frac{1}{32} \right]$ 의 값을 구하시오. (1.7점)

- ① 0 ② $\frac{1}{2}$ ③ 1 ④ ∞

[27] 함수 $f(x) = \frac{\sqrt{2x+5} - \sqrt{x+7}}{x-2}$ ($x \neq 2$)가 $x=2$ 에서 연속이 되도록 $f(2)$ 의 값을 정의하시오. (1.7점)

- ① $f(2) = 0$ ② $f(2) = \frac{1}{6}$ ③ $f(2) = \frac{1}{3}$ ④ $f(2) = 1$

[28] $A = \int_0^1 \sin\left(\frac{\pi x}{2}\right) dx$ 이고 $B = \int_0^1 2x e^x dx$ 일 때, 다음 중 가장 큰 값을 찾으시오. (1.7점)

- ① $A+B$ ② AB ③ A/B ④ B/A

[29] 다음 중 수렴하는 급수를 모두 고르시오. (1.7점)

(가) $\sum_{n=1}^{\infty} \frac{\cos n}{n(n+1)}$	(나) $\sum_{n=2}^{\infty} \frac{1}{\ln n}$
(다) $\sum_{n=1}^{\infty} \left(1 + \frac{1}{2n}\right)^{n^2}$	(라) $\sum_{n=1}^{\infty} \frac{\ln n}{n^2}$

- ① (가), (나) ② (나), (다)
 ③ (가), (라) ④ (가), (다), (라)

[30] 미분방정식 $y'' - 2y' + y = 0$ 의 일반해를 구하시오. (1.7점)

- ① $y = Ce^{2x} + De^{-x}$ ② $y = Ce^x + De^{-x}$
 ③ $y = (C+Dx)e^x$ ④ $y = (C+Dx)e^{-x}$

[31] 행렬 $\begin{bmatrix} 3 & 0 & 0 \\ 2 & 1 & 4 \\ 1 & 0 & a \end{bmatrix}$ 의 특성다항식이 $-x^3 + bx^2 - 19x + 12$ 일 때,

상수 b 의 값을 구하시오. (1.7점)

- ① -8 ② -4 ③ 4 ④ 8

[32] 곡선 $x^2 - xy - y^2 = 1$ ($x, y \geq 0$) 위의 점 $(2, y_0)$ 에서의 변화율 $\frac{dy}{dx}$ 의 값을 구하시오. (2.0점)

- ① $-\frac{7}{4}$ ② $-\frac{3}{4}$ ③ $\frac{3}{4}$ ④ $\frac{7}{4}$

[33] x 축 위에서 움직이는 점 P 의 시간 $t > 0$ 에서의 속도가 $v(t) = -\frac{\ln t}{t^2}$ 일 때, 이 점의 운동에 대한 설명으로 옳은 것을 모두 고르시오. (2.0점)

- (가) 점 P 의 속도 $v(t)$ 의 최댓값이 존재한다.
 (나) 점 P 의 속도 $v(t)$ 의 최솟값이 존재한다.
 (다) 점 P 의 속도 $v(t)$ 의 부호는 정확히 한 번 바뀐다.
 (라) 점 P 의 가속도 $v'(t)$ 의 부호는 정확히 한 번 바뀐다.

- ① (가), (나) ② (나), (라)
 ③ (다), (라) ④ (나), (다), (라)

[34] 극좌표로 정의된 곡선 $r = 1 + \cos \theta$ 위의 점 $Q(r, \theta)$ 에서의 접선의 기울기가 1일 때, 다음 중 Q 의 θ 좌표가 될 수 있는 값을 고르시오. (2.0점)

- ① $\theta = \frac{3\pi}{2}$ ② $\theta = \frac{5\pi}{3}$ ③ $\theta = \frac{7\pi}{4}$ ④ $\theta = \frac{11\pi}{6}$

[35] 정적분 $\int_0^2 \sqrt{-x^2+8x} dx$ 의 값을 구하시오. (2.0점)

- ① $\frac{4\pi}{3} - 2\sqrt{3}$ ② $\frac{8\pi}{3} - 2\sqrt{3}$ ③ $\frac{2\pi}{3}$ ④ 4

[36] $T_n = \sum_{k=1}^n \frac{n}{(k+n)(k+2n)}$ 일 때, $\lim_{n \rightarrow \infty} e^{T_n}$ 의 값을 구하시오. (2.0점)

- ① $\frac{1}{3}$ ② $\frac{2}{3}$ ③ $\frac{4}{3}$ ④ 3

[37] $F(x) = \int_{3x-5}^{2x^2-7} e^{-t^2} dt$ 일 때, 곡선 $y = F(x)$ 의 $x = 2$ 에서의 접선의 방정식을 구하시오. (2.0점)

- ① $5x - ey = 10$ ② $5x - y = 10$
 ③ $ex + y = 2e$ ④ $ex - 5y = e$

[38] x 축과 y 축, $x = 1$, 곡선 $y = \frac{2}{x+1}$ 로 둘러싸인 영역을 x 축을 중심으로 회전시킨 입체의 부피를 V_x 라고 하고 y 축을 중심으로 회전시킨 입체의 부피를 V_y 라고 할 때, 두 부피의 비율 V_y/V_x 의 값을 구하시오. (2.0점)

- ① $1 - \ln 2$ ② $2 - \ln 4$ ③ 1 ④ $\frac{e}{2}$

[39] 멱급수 $\sum_{n=1}^{\infty} \frac{n! x^n}{1 \cdot 3 \cdots (2n+1)}$ 의 수렴반경을 구하시오. (2.0점)

- ① 0 ② $\frac{1}{2}$ ③ 2 ④ ∞

[40] 함수 $f(x) = \int_0^x \frac{\cos u}{1-u} du$ 의 $x = 0$ 에서의 4차 테일러 다항식을 구하시오. (2.0점)

- ① $x + \frac{x^2}{2} + \frac{x^3}{6} + \frac{x^4}{8}$ ② $x + \frac{x^2}{2} + \frac{x^3}{3} + \frac{x^4}{4}$
 ③ $x + \frac{x^2}{2} + \frac{x^3}{2} + \frac{x^4}{2}$ ④ $x + x^2 + x^3 + x^4$

[41] 함수 $g(x) = e^x$ 에 대하여 $g\left(\sum_{n=1}^{\infty} \frac{(-1)^n}{n \cdot 3^n}\right)$ 의 값을 구하시오. (2.0점)

- ① 0 ② $\frac{1}{3}$ ③ $\frac{3}{4}$ ④ $\frac{4}{3}$

[42] 상수 c 와 d 에 의하여 정의되는 연립방정식

$$\begin{cases} x + 2y + 3z = 1 \\ x + 3y + 5z = 0 \\ y + cz = d \end{cases}$$

에 대한 설명으로 옳바른 것을 모두 고르시오. (2.0점)

- (가) 해가 무한히 많이 존재하도록 하는 c 와 d 를 찾을 수 있다.
 (나) $c = 2$ 이면 해가 존재하지 않는다.
 (다) $cd = -2$ 이면 해가 반드시 존재한다.

- ① (가), (나) ② (가), (다)
 ③ (나), (다) ④ (가), (나), (다)

[43] 함수 $G(x, y) = x^3 + y^3 + 3xy$ 의 극점을 모두 구하고 각 극점의 종류를 판별하시오. (2.0점)

- ① (0, 0): 안장점, (-1, -1): 극대점
 ② (0, 0): 안장점, (-1, -1): 극소점
 ③ (0, 0): 극소점, (1, 1): 극대점
 ④ (0, 0): 극소점, (1, -1): 안장점

[44] 미분방정식 $\frac{dy}{dx} = y \ln y$ 의 해 $y = f(x)$ 가 $f(0) = \frac{1}{e}$ 을 만족할 때, $x = \ln 2$ 에서 $y = f(x)$ 에 접하는 접선의 기울기를 구하시오. (2.0점)

- ① $-e^2$ ② $-\frac{2}{e^2}$ ③ $\frac{1}{e^2}$ ④ $\frac{e^2}{2}$

[45] 이상적분 $A = \int_0^\infty \left(\frac{x}{x^2+1} - \frac{B}{2x+4} \right) dx$ 가 수렴할 때 AB 의 값을 구하시오. (2.3점)

- ① $\ln 2$ ② $\ln 4$ ③ $\ln 6$ ④ $\ln 8$

[46] 세 곡면 $z = 0$, $2x^2 + y^2 = R^2$, $z = 10$ 으로 둘러싸인 기둥이 곡면 $z = 2x^2 + y^2 + 1$ 에 의하여 부피가 똑같은 두 조각으로 나누어질 때 R 의 값을 구하시오. (2.3점)

- ① $2\sqrt{2}$ ② 4 ③ $4\sqrt{2}$ ④ 8

[47] 곡선 $C: x^2 + y^2 = 1$ ($x, y \geq 0$) 위에서 계산한 적분의 절댓값 $\left| \int_C xy dx + y(x - x^2) dy \right|$ 의 값을 구하시오. (2.3점)

- ① $\frac{1}{4}$ ② $\frac{1}{2}$ ③ 1 ④ $\frac{5}{4}$

[48] 함수 $F(x, y) = e^{\frac{1}{2}x^2 - y^2} (x + 2\sqrt{2}y)$ 의 극점을 (x_1, y_1) 이라고 할 때, $3 \cdot |x_1 + y_1|$ 의 값을 구하시오. (2.3점)

- ① $\sqrt{6} - \sqrt{3}$ ② $\sqrt{2} - 1$ ③ $\sqrt{2} + 1$ ④ $\sqrt{6} + \sqrt{3}$

[49] 선형사상 $T: \mathbb{R}^2 \rightarrow \mathbb{R}$ 이 $T(2, 1) = \sin \theta$, $T(1, 3) = \cos \theta$ 를 만족한다고 하자 (단, $0 \leq \theta \leq \frac{\pi}{2}$). $T(1, -1) = 0$ 일 때, $T(2, 3)$ 의 값을 구하시오. (2.3점)

- ① $\frac{16}{25}$ ② $\frac{24}{25}$ ③ 1 ④ $\frac{7}{5}$

[50] 미분방정식 $y'' + 4y = 12 \sin 2x$ 의 해가 $y(0) = 0$, $y(\frac{\pi}{4}) = 0$ 을 만족할 때, $y(\frac{\pi}{6})$ 의 값을 구하시오. (2.3점)

- ① $-\frac{\sqrt{3}\pi}{4}$ ② $-\frac{\pi}{4}$ ③ $\frac{\pi}{4}$ ④ $\frac{\sqrt{3}\pi}{4}$