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OMR

.
- .

2

3

.
- .

1. $\log_3 12 + \log_3 9 - \log_3 4$? [2]

1

2

3

4

5

2. $x = \sqrt{2}$, $\frac{3}{x - \frac{x - 1}{x + 1}}$? [2]

$\sqrt{2} + 1$

$2(\sqrt{2} + 1)$

$3(\sqrt{2} + 1)$

$4(\sqrt{2} + 1)$

$5(\sqrt{2} + 1)$

3. $\cos \theta = -\frac{1}{3}$, $\sin \theta \cdot \tan \theta$? [2]

$-\frac{10}{3}$

$-\frac{8}{3}$

$-\frac{5}{3}$

$\frac{5}{3}$

$\frac{8}{3}$

4. $(x - 1)(x + 3) < 5$ x

? [2]

1

2

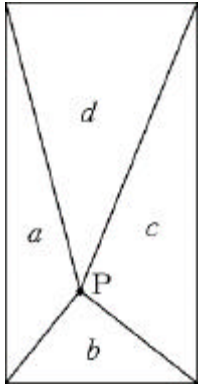
3

4

5



9. P 가 가 1 , 가 2 .
 P
 a, b, c, d
.
 $\begin{pmatrix} a & b \\ c & d \end{pmatrix}$
 P ? [3]



$\frac{1}{\sqrt{5}}$ $\frac{\sqrt{2}}{3}$ 2

10. $y=f(x)$ $x=1$, 가
 , x x
 ? [3]

$\sqrt{2}$ $\sqrt{3}$ 2
 $\sqrt{5}$ $\sqrt{6}$

11. $f(x)=[x^2]$ $g(x)=[x]^2$
< > ?
(, $[x]$ x .) [3]

→< >→
ㄱ . $f(\sqrt{2}) > g(\sqrt{2})$
ㄴ . x 가 $f(x) = g(x)$.
ㄷ . $f(x) = g(x)$ x .

ㄱ
ㄴ, ㄷ
ㄱ, ㄴ
ㄱ, ㄴ, ㄷ

12. $A(k)$ k
 .
 , $k=2$ $2^1=2, 2^2=4, 2^3=8, 2^4=16,$
 $2^5=32, \dots$ $A(2)=\{2, 4, 6, 8\}$.
< > ? [3]

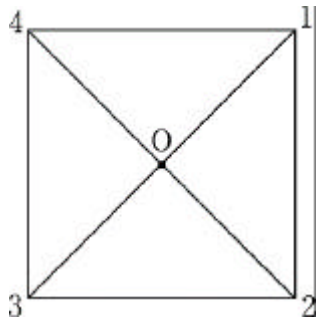
→< >→
ㄱ . $1 \in A(3)$
ㄴ . $A(6) \subset A(3)$
ㄷ . $A(3^n) = A(3)$ n . (, $n > 1$)

ㄱ
ㄴ
ㄴ, ㄷ
ㄱ, ㄷ



13. 1, 2, 3, 4

, 0 .



0 90°

1 2 , 2 3 , 3 4
, 4 1 .

f_1 ,

$f_1(1) = 2, f_1(2) = 3, f_1(3) = 4, f_1(4) = 1$

. O

90°, 180°, 270°, 360° ,

$f_1, f_2, f_3,$

f_4 .

< > ?

(, f^{-1} f .) [3]

<

>

$\neg . f_2 \circ f_3 = f_4$

$\angle . f_1^{-1} = f_3$

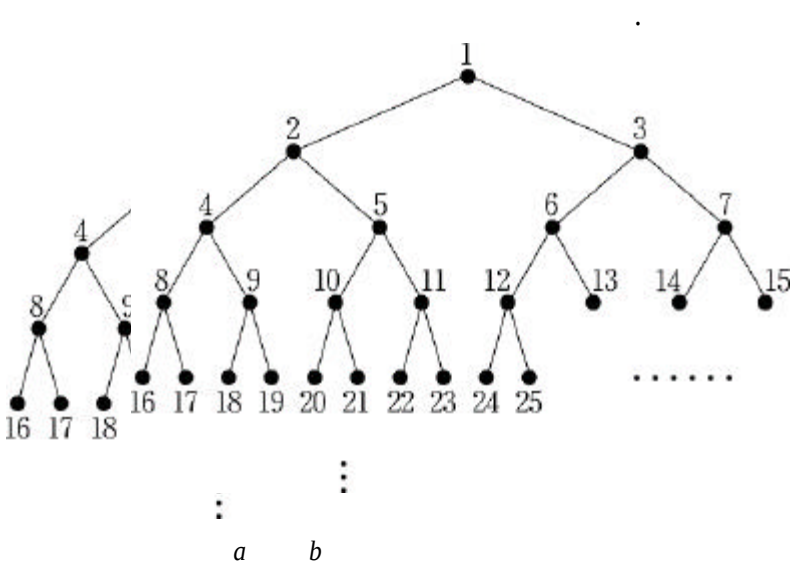
$\sqsubset . f_1 \circ f_3 = f_3 \circ f_1$

$\neg$ $\angle$ $\neg, \sqsubset$
 $\angle, \sqsubset$ $\neg, \angle, \sqsubset$

14. 1, 2, 3
, 1 2가 ? [3]

58 56 54
52 50

15. 1



$N(a, b)$. ,

$N(4, 6) = 4$ $N(12, 27) = 3$.

$N(32, 33) + N(32, 34) + N(32, 35) + \cdots + N(32, 63)$
? [3]

196 258 270
312 344

16. $f(x) = x^2 - 4x$ (a, b)가

$y > f(x)$, < >
? [3]

<

>

$\neg . \frac{b}{2} > f\left(\frac{a}{2}\right)$

$\angle . 2b > f(2a)$

$\sqsubset . -b < f(-a)$

$\neg$ $\angle$ $\neg, \angle$
 $\neg, \sqsubset$ $\angle, \sqsubset$



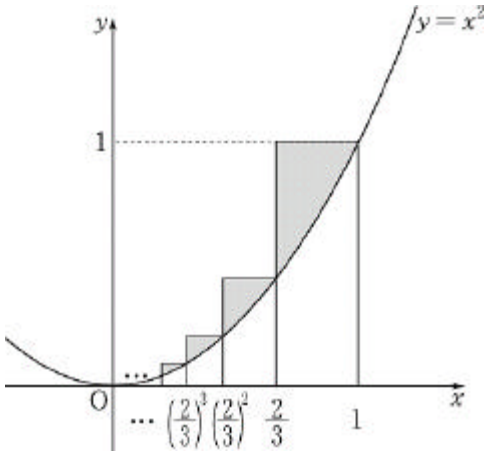
19. $x_1, x_2, x_3, \cdots, x_{100}$ 가
서로 다른 실수일 때

(가) $x_1, x_2, \cdots, x_{100}$ 가
() x_3 가 x_1, x_2, x_3 의 평균일 때
() x_4 가 x_1, x_2, x_3, x_4 의 평균일 때
⋮
 x_{100} 가 $x_1, x_2, \cdots, x_{100}$ 의 평균일 때

이 때 $x_1 + x_2 + \cdots + x_{100}$ 의 값을 구하시오.
가 가 1 가 .
 x_{100} 의 값을 구하시오. [3점]

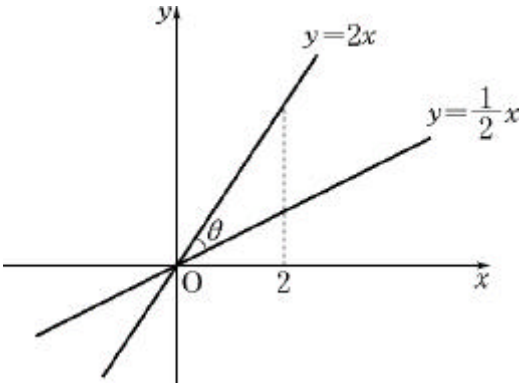
194 196 198
200 202

20. $y = x^2$ 가
 $1, \frac{2}{3}, (\frac{2}{3})^2, (\frac{2}{3})^3, \cdots, (\frac{2}{3})^{n-1}, \cdots$ 를
이등비열로 나타낼 수 있다.
 $y = x^2$ 의 그래프를 이용하여
이등비열의 합을 구하시오. [3점]



$\frac{5}{57}$ $\frac{2}{19}$ $\frac{7}{57}$
 $\frac{8}{57}$ $\frac{3}{19}$

21. $y = 2x$ 과 $y = \frac{1}{2}x$ 가
직선 $y = \cos \theta$ 와
교차하는 점의 x좌표를 구하시오. [3점]



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

22. 10진수 16진수로 변환하시오.

10	0	1	...	9	10	11	12	13	14	15
16	0	1	...	9	A	B	C	D	E	F

RGB
(R), (G), (B)
R, G, B
B, G, R
255, 255, 255
FF, 02, 1A
10, 255, 2, 26
R, G, B
R, G, B
? [2점]

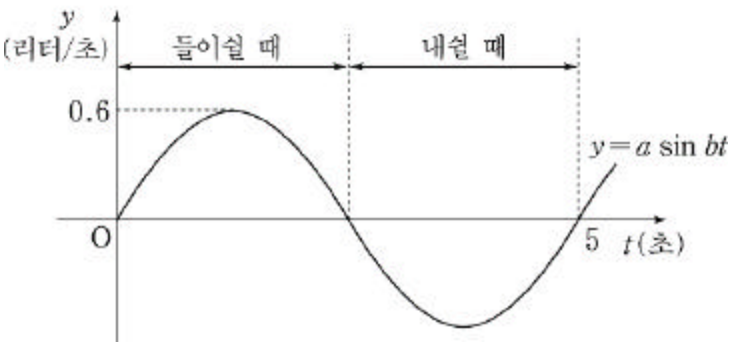
80F 840 64F 540 64F 840
40F 580 80F 380



23.

(/)

.
 y , $y = a \sin bt$ (a, b)
 . , y ,
 가 .



가 5 , 0.6 (/)
 ,
 - 0.3 (/) ? [3]

- $\frac{35}{12}$

$\frac{37}{12}$

$\frac{30}{11}$
- $\frac{31}{11}$

$\frac{35}{31}$

24.

가

t , $v(t)$ (m /)

$$v(t) = \begin{cases} t & (0 \leq t \leq 20) \\ 60 - 2t & (20 \leq t \leq 40) \end{cases}$$

. $t = 35$,
 ? (,
 가 .) [3]

- 225 m

250 m

275 m
- 300 m

325 m

25.

A B 가

$$A = \begin{pmatrix} 5 & 2 \\ 7 & 3 \end{pmatrix} B$$

, $AB^{-1} + BA^{-1}$
 . [2]

26. $\lim_{x \rightarrow -2} \frac{2x + 4}{\sqrt{x + 11} - 3}$. [2]



27. $x^2 + 6x + a = 0$ $b + \sqrt{3}i$,
 $a + b$.
(, a, b $i = \sqrt{-1}$.) [3]

29. x $A(2, 5)$
 $B(4, 1)$,
 x . [3]

28. A, B, C
 $n(A) = 14, n(B) = 16, n(C) = 19,$
 $n(A \cap B) = 10, n(A \cap B \cap C) = 5$
 $, n(C - (A \cup B))$.
(, $n(X)$ X .) [3]

30. $\log_2 7$ $a,$ b ,
 $3^a + 2^b$.
(, $0 \leq b < 1$.) [3]

*
□ ()
□ .
□ .