① ให้ $2^0 + 2^1 + 2^2 + \dots + 2^{n-1} = N$ -①

$2^1 + 2^2 + 2^3 + 2^4 + \dots + 2^n = 510$ -②

② $\div 2$ ; $N = 255$

② - ① ; $2^n - 1 = 510 - N$

$2^n - 1 = 255$

$2^n = 256$

$\therefore n = 8$ #

② ให้ $x$ เป็นอัตราส่วนร่วม ของลำดับเรขาคณิต

$x^0 a_1 + x^1 a_1 + x^2 a_1 + \dots + x^{19} a_1 = 13$ -①

$x^0 a_1 - x^1 a_1 + x^2 a_1 - x^3 a_1 + \dots - x^{19} a_1 = 17$ -②

① + ② $2(a_1 + x^2 a_1 + x^4 a_1 + \dots + x^{18} a_1) = 30$

③ $a_1 + a_2 = 10$ -①

จาก $a_{n+2} - a_n = 3$

เมื่อ $n = 1$

$a_3 - a_1 = 3$

$a_1 = a_3 - 3$

$a_2 = a_4 - 3$

$a_3 = a_5 - 3$

$\vdots$

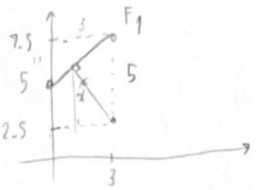
$a_{40} = a_{42} - 3$

$N = N - a_1 - a_2 + a_{41} + a_{42} - 120$

④ $1210 = 11^2 \times 10 = 11^2(11-1)$

⑤ $F_1 = (3, 7.5)$

$F_2 = (3, 2.5)$




1.5 ม.

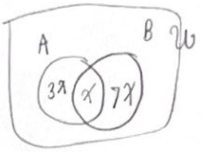
⑥

⑦ $1 < -\frac{3}{7} + x < 7$

$1\frac{3}{7} < x < 7\frac{3}{7}$

$x = 2, 3, 4, \dots 7$

⑧




$n((A-B) \cup (B-A)) = 120$

$10x = 120$

$x = 12$

$11x = 132$

⑨ $y = f(x) = ax^2 + bx + c$

$0 = 16a - 4b + c$ -①

$0 = 4a + 2b + c$ -②

$16 = c$ -③

② $\times 2$ ; $0 = 8a + 4b + 2c$ -④

① - ④ ; $0 = 24a + 3c$

$0 = 8a + c$

จาก ③ ; $a = -2$

จาก ① ; $0 = -32 - 4b + 16$

$b = -4$

$f(x) = -2x^2 - 4x + 16$

⑩ $N_0 = 8$

$N_3 = 2$ } 6

(12) ต้องราคา $x$ บาท

$\frac{40}{100} \times 800 = 320$

$800 + 320 = 1120$

$\frac{x}{2} = 1120$

$x = 2240$

---

(13)

| 55 | 62 | 60 | | |
|---|---|---|---|---|
| ลำดับ 19 | 20 | 21 | | 22 |

$\frac{62+60}{2} = \frac{122}{2} = 61$

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(14) $n(P(A)) = 2^4 = 16$

$n(A - P(A)) = 1$
$n(P(A) - A) = 13$ $\Big\}$ $x = 13$

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(15) กล่องที่ 1 $\frac{8}{21}$

กล่องที่ 2 $\frac{7}{20}$

$\frac{\cancel{8}^{2}}{\cancel{21}_{3}} \times \frac{\cancel{7}}{\cancel{20}_{5}} = \frac{2}{15}$

---

(16) 6 16 26 36 46 56 76 86 96

61 61 , , , , , , ,

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(17)

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(18) $6(a+b+c) = 1$

$24a = 1 \quad a = \frac{1}{24}$

$6(b+c) = \frac{3}{4}$

$b+c = \frac{3}{24}$

$\frac{8}{24}$ $\left(\frac{8}{24}\right)$ $= \frac{16}{24}$

① 

| | | |
|---|---|---|
| 1 | 8 | 6 |
| 5 | 15 | 10 |
| 7 | | 9 |

② 

③ $\frac{68.26}{100} \times 50000$

④ $\frac{68.26 + 13.59 + 13.59}{100} \times 50,000$

⑤ 6, 10, 18, 30, 46, 66, 90

+4, +8, 12, 16, 20, 24

⑥ 4, 12, 68, 630

8, 56, 562

⑦ 9, 18, 14, 28, 24, 48

10, 20

5, 10, 20

⑧ 1, 3, 7, 15, 31, 63

2, 4, 8, 16, 32

⑨ 10, 14, 19, 27, 44

13

4, 5, 8, 17

9, 25

⑩ 5 7 4 8 3 9 | 

⑪ 

⑫ 

⑬ $\frac{(60+120)}{2}(12) = 1080$

$1080 : 9$

120

⑭ 640 → 320 → 160 → 80 → 40 → 20 → 10 → 5

$7 \times 4.5 \times 10^{19} = 31.5 \times 10^{9}$

⑮ 

⑯ 

⑰ 

⑱ 

⑲ 

⑳ C F D B + A

$\frac{\varphi}{350 \times 0.975} \times 100$