

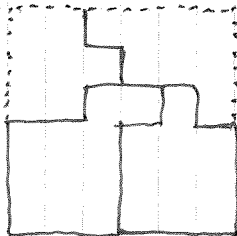
⑤

~~30 + 35 + 40 + 48 = 153~~

35 + 40 + 45 + 42 = 162

28 + 35 + 42 + 48 = 153

⑥



⑦

46	23	30	20
40	17	24	14
31	8	15	5
45	22	29	19

8 + 30 + 19 = 57

8 + 24 + 13 = 51 — 46

5 + 29 + 46 = 80

5 + 29 + 40 = 74

46 + 17 + 19 = 82

40 + 8 + 29 = 77

46 + 8 + 29 = 83

⑧

$\frac{1}{4} + \frac{1}{5} = \frac{9}{20}$

$+\frac{1}{6} = \frac{27+10}{60} = \frac{37}{60}$

$+\frac{1}{7} = \frac{7 \times 37 + 60}{420} = \frac{319}{420}$

$+\frac{1}{8} = \frac{2 \times 319 + 105}{840} = \frac{743}{840}$

$+\frac{1}{9} = \frac{3 \times 743 + 280}{2520} = \frac{2509}{2520}$

259 638

3 x 840 = 2520

2229

280

→ 70

③

II 2	IV 4	VI 8	IX 10	XI 14	XV 16	→ 2
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III 3	VII 6	XII 12	XIV 9	XVI 15	→ 2	(7)
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I 1	V 5	VIII 7	X 11	XIII 13	→ 3
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⑩

$$\begin{matrix} 17k+8 \\ 15k'+8 \end{matrix}$$

$$17 \times 19 = 323$$

$$323k+8$$

$$k = 4, 5, 6$$

$$15 \times 323 + 24$$

$$\begin{array}{r} 369 \\ \times 5 \\ \hline 4845 \\ 24 \\ \hline 4869 \end{array}$$

⑭

$$(PH + HS)^2 = 1575$$

$$\begin{aligned} HS^2 &= 1125^2 + (450 + PH)^2 \\ &= 1125^2 + (2025 - HS)^2 \\ &= 1125^2 + \end{aligned}$$

$$\begin{array}{r} 53 \\ \times 25 \\ \hline 1325 \\ 2294 \\ \hline 25+81 \end{array}$$

~~$$HS^2 = 45^2 +$$~~

$$175: HS^2 = 15^2 + (27 - HS)^2 = 15^2 + 27^2 - 2 \cdot 27 \cdot HS + HS^2$$

~~$$HS^2 =$$~~

$$HS = \frac{15^2 + 27^2}{2 \times 27} = \frac{5^2 + 9^2}{6} = \frac{106}{6} = \frac{53}{3}$$

$$\underline{HS = 53 \times 25 = 1325}$$

$$PH = 1575 - 1325 = 250$$

~~$$ACE = PH + HE + AH$$~~

$$125: 18 + CE = 10 + HE + 12 \rightarrow CE = 4 + HE$$

$$\underbrace{HC^2}_{28} + HE^2 = CE^2$$

$$28^2 + HE^2 = (4 + HE)^2$$

$$28^2 - 16^2 = 8 HE \quad HE = 2(7^2 - 4^2) = 66$$

$$\rightarrow HE = \underline{66 \times 25}$$

(11)

125:

$$PC + 2(CS + SH + HE + CE) + PC$$

$$18 \quad \overset{48}{45} \quad 53 \quad 66 \quad 70$$

$$2 \times \frac{1}{2} 252 = 504$$

$$26 \times 60 = 1560$$

$$504 \times 25 \text{ m}$$

$$12,6 \text{ km}$$

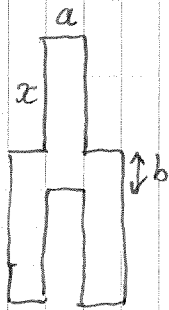
$$1,26 \text{ h} = 1 \text{ h } 15,6 \text{ min}$$

$$= 1 \text{ h } 15 \text{ min } 36 \text{ s} \rightarrow 9 \text{ h } 15' 36''$$

~~(12)~~

(13)

abc



$$6a + 2b + 3x$$

$$6a + 4b + 8x = 260$$

$$4 \mid 260 - 6a$$

$$8a + 4b + 6x = 228$$

$$\rightarrow 2x - 2a = 32$$

$$x - a = 16 \quad \underline{\underline{2 \mid a}}$$

$$260 - 8(16 + a) - 6a > 0$$

$$132 - 14a > 0$$

$$a = 2, 4, 6, 8 \rightarrow 18, 20, 22, 24 \text{ (4 sol)}^{\circ}$$

(13)

1023 511 255 127 63 31 15 7 3 1 → 10 noia.
bbbbbb...b b=0 ou 1

19

• 11 bits → 1 "0"
1024 512 256 128 64 : 32
1536 1792 1920 1984

2048 - 2ⁿ - 1 6 ≤ n ≤ 10 → 5 sol^o 1023 1535

(15)

N = a + b, a * b = 1, a et b comp.
NAN B: {nb composés} B + B?

4 + 3k (7)
8 + 3k (11)
6 + 3k

Multiple de 3: OK if
25 + 6k (k ≥ 2) 51k
35 + 6k (k ≥ 2)

• N ≡ 1 [6]: 4 + (6k + 3)
25 + 6k (k ≥ 2, 51k)
49 + 6k (k ≥ 2, 71k)

31: 4 + 27 55: 4 + 51
25: 4 + 21 19: 4 + 15
13: 4 + 9 (7)

• N ≡ 5 [6]: 8 + (6k + 3)

(11)

• N ≡ 3 [6]: (15) (21) (27)
33: 8 + 25 39: 25 + 14 (45) (k=3)
25 + (6k + 2)

Pb: 30k + 15
75: 49 + 26
49 + (30k + 26)
(105):
Pb: 210k + 105
315: 2, 11, 13, 17