

⑤

$$20-9-35-12 \begin{cases} 115-20-5-3 \\ 16-24-25-15-36-21-30 \end{cases}$$

⑥

$$P, F. \begin{cases} P = 2F \\ P + F = 100 - 2 \times 11 = 78 \end{cases}$$

$$F = 78 / 3 = \underline{26}$$

$$P = \underline{52}$$

⑦

$$\begin{cases} 1950 = 16b + 18j \\ b = 2j \end{cases}$$

$$j = \frac{1950}{50} = 39$$

$$b = 78$$

$$\begin{array}{r} 39 \\ \times 16 \\ \hline 624 \end{array} \quad \begin{array}{r} 78 \\ \times 18 \\ \hline 1404 \end{array}$$

$$\begin{array}{r} 78 \\ \times 16 \\ \hline 1248 \end{array} \quad \begin{array}{r} 39 \\ \times 18 \\ \hline 702 \end{array}$$

CALCULATORS

⑧

$$t_i = c + p + v_i = v_i + 336$$

1) $c = t_1/3 \rightarrow t_1 = 666, v_1 = 330$

2) $p = t_2/3 \rightarrow t_2 = 342, v_2 = 6$

3) $v_3 = t_3/3 \rightarrow 3v_3 = v_3 + 336 \rightarrow v_3 = 336/2 = 168$

$$v_1 + v_2 + v_3 = \underline{504}$$

⑨

001 ⁰
 ₁

~~001000~~
~~001001~~

12537640

~~004000~~

~~004001~~

~~004010~~

001 011

~~0041000~~

~~00410100~~

001110

~~004111~~

0010111000

~~00101101~~

00111000

0011101000

13765240



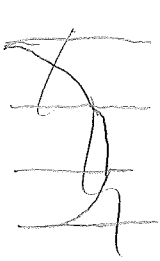
HEWLETT®
PACKARD

CALCULATORS

10

18

~~10~~



①

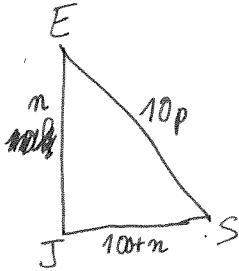
$$\frac{2 \times 8,70}{3} ?$$

3

$$\rightarrow (5,80) ?$$

$$\alpha + (30 - \alpha) \times 2 + \alpha$$

(12)



$$JS = 100 + JE$$

en km

10p min?

$$1) (100+n)^2 = n^2 + (10p)^2$$

$$200n = 100p^2 - 100^2$$

$$2n = p^2 - 100 \rightarrow p = 12, n = 22$$

$$p = 100 \quad n = 22, 120, 122 \rightarrow 120 \text{ km}$$

↓
12 km

$$2) 100p^2 = n^2 + (100+n)^2$$

$$= 2n^2 + 200n + 100^2 \rightarrow 10|n$$

$$n = 10 \rightarrow 200 + 2000 + 10000 = 12200$$

$$n = 20 \rightarrow 800 + 400 + 14400$$

122^2	\times	122	\times	122
		122		484
		14884		14400
		14884		14884

CALCULATORS

a, e, h, i, k

(13)

$$a+b=e+f \rightarrow 3a+d+g=2e+h$$

$$f=e+h$$

$$c=a+d+g=2a+e+d+i=3a+2e+i$$

$$b=a+c=2a+d+g=3a+e+d+i=4a+2e+i \quad \begin{matrix} l=42 \\ m=33 \end{matrix}$$

$$d=a+e$$

75 / 112

Fin:
a=3 → i=5
e=11
b=39 g=19
c=36 h=20
d=14 f=31
j=24 k=9

$$l=m+k=j+2k=g+i+2k=d+2i+2k$$

$$m=j+k=g+i+k=d+2i+k$$

$$j=g+i=d+2i$$

$$g=d+i$$

Ca b

$$b=4a+2e+i$$

$$c=3a+2e+i$$

$$d=a+e$$

$$f=e+h$$

$$g=a+e+i$$

$$j=a+e+2i$$

$$l=a+e+2i+2k$$

$$m=a+e+2i+k$$

$$h=d+e-i=a+2e-i$$

$$k=i+j-h=a+e+3i-a-2e+i$$

$$\hookrightarrow k=4i-e$$

$$a+b=e+f \rightarrow 5a+2e+i=2e+h \\ =a+4e-i$$

$$4a-2e+2i=0$$

$$\rightarrow 2a-e+i=0 \rightarrow e=2a+i$$

$$f+h=l+k \rightarrow 2a+5e-2i=a+e+2i \\ +12i-3e$$

$$a+7e-16i=0$$

$$15a-9i=0$$

CALCULATORS

14

10 → 9/1 → 8/2 → 7/1/2 → 6/1/3
 → 5/2/3 → 4/1/2/3 → ~~3/1/2/3/4~~ 3/1/2/4
~~2/1/2/3/4~~
3/3/3/1 → 2/2/2/4 → 1/1/1/3/4
 → 2/3/5

2/2/2/2/2 → 1/1/1/1/1/5 → 4/6
 → 3/5/2

3/3/4 → 2/2/3/3 → 1/1/2/2/4 → 1/1/3/5
 → 2/4/4 → 1/3/3/3

1; 2; 3; 4 scale sol^o?

3/3/2/1/1

1/2/2/5 → 1/1/4/4 → 3/3/4 → 2/2/3/3
0 1 2 3

→ 1/1/2/2/4 → 1/1/3/5 → 2/4/4 3 sol

→ 1/3/3/3 → 2/2/2/4 → 1/1/1/3/4 OK
7 8 9

CALCULATORS

(15)

$$X^2 + (X^2 + 1) = L^2$$

$$L^2 = 2X^2 + 1 \rightarrow L \text{ impair } L = 2n + 1$$

\hookrightarrow P-F

$$2X^2 = (L+1)(L-1) \\ = 2(n+1)2n = 4n(n+1)$$

$$\rightarrow X \text{ pair } X = 2x$$

$$2x^2 = n(n+1) \quad x^2 = \frac{n(n+1)}{2}$$

$$n=1, x=1 \rightarrow 2 \text{ et } 3$$

$$n=8, x=6 \rightarrow 12 \text{ et } 17$$

120

136

153

171

190

210

$$\frac{24 \times 25}{2}$$

$$\frac{49 \times 50}{2}$$

$$\rightarrow n=49, x=35$$

$$\rightarrow 70 \text{ et } 99$$

- (0, 1)
- (2, 3)
- (12, 17)
- (70, 99)

$$70 = 2 \times 17 + 3 \times 12$$

$$99 = 3 \times 17 + 4 \times 12$$

$$\begin{pmatrix} 70 \\ 99 \end{pmatrix} = \begin{pmatrix} 3 & 2 \\ 4 & 3 \end{pmatrix} \begin{pmatrix} 12 \\ 17 \end{pmatrix}$$

$$\begin{pmatrix} 3 & 2 \\ 4 & 3 \end{pmatrix} \begin{pmatrix} 70 \\ 99 \end{pmatrix} = \begin{pmatrix} 408 \\ 577 \end{pmatrix}$$

$$210 + 138$$

$$280 + 297$$

$$P = 2X + L + 1$$

$$= 2 \times 408 + 578$$

$$= 816 + 578$$

$$= \underline{1394}$$

408

$$\times 408$$

$$\hline 166464$$

$$332928$$

577

$$\times 577$$

$$\hline 332928$$

$$9801$$

$$P = 2X + L + 1 \\ = \underline{1394}$$

CALCULATORS

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1	2	3	4	5	6	7	8
2	1	4	3	6	5	8	7
3	4	1	2	7	8	5	6
4	3	2	1	8	7	6	5
5	6	7	8	1	2	3	4
6	5	8	7	2	1	4	3
7	8	5	6	3	4	1	2
8	7	6	5	4	3	2	1
9	10	11	12				

0
1
2
3

000	001	010
001	000	011
010	011	000
011	010	001
100	101	110
101	100	111
110	111	100
111	110	101

128	64	32	16	8	4	2	1
0	1	1	0	0	0	1	1
<hr/>							
1	0	1	0	0	1	0	0
<hr/>							
1	0	1	0	0	1	0	0
<hr/>							
1	0	1	0	0	1	0	1
<hr/>							
99 et 199							

$$((2x-1) \text{ XOR } (2y-1)) + 1$$

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