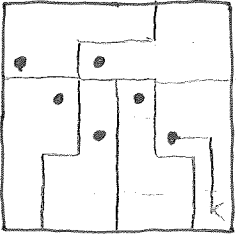


5



6

18/11/14

A = 18, ~~54~~

B = 36, ~~72~~

C = 60

D = 72

7

1	2	3	4	5	6
20	26	36	42	52	58
	⁺⁶	⁺¹⁰	⁺⁶	⁺¹⁰	⁺⁶
	¹	¹	¹	¹	¹
	^{-2x7}	⁺²⁰	^{-2x7}	⁺²⁰	^{-2x5}

0	10
2	26
4	42
6	58

$n \text{ pair} \rightarrow 8n + 10$
 $8 \times 40 + 10 = \underline{330}$

⑧

12 48 * y

~~12 49 ..~~

13 49

~~13 5~~

14 50

~~14~~

x > 5

y = ~~xxxxxx~~ 5 6 7 ~~xx~~

→ ~~xxxx~~ x = 6 7 ~~xx~~

65	68	75	
66	76		
67	77	→	<u>67</u>

⑨

1 & 4 & 7 & {c, d} = {2, 8}

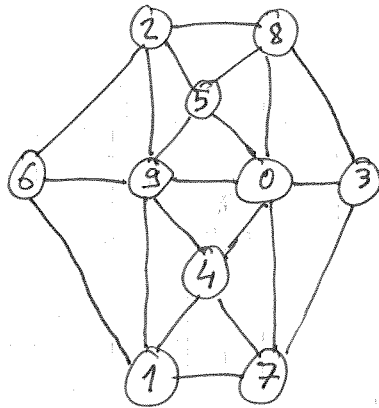
a > 3 (0) — (8) b < 5 non

(3) — (0) — (9) — (2)

(1) — (8) non

(1) — (9) non

→



(10)

$$x(x+1) + 2000 = y(y+1)$$

$$y = x + 2n$$

$$x(x+1) + 2000 = (x+2n)(x+2n+1)$$

$$2n(x+2n+1)$$

$$y(y+1) = 2000 + (y-2n)(y-2n+1)$$

$$2n(y-2n+1) + 2ny = 2000$$

$$n(y-2n+1+y) = 1000$$

$$n(2y-2n+1) = 1000$$

$$y = \frac{1}{2} \left(\frac{1000}{n} + 2n - 1 \right)$$

$$8|n, n|1000$$

$$n = 8 \cdot 5^k$$

$$x = y - 2n$$

$$n = 8, 40, 200, 1000$$

$$n = 8 \rightarrow y = \frac{1}{2} (125 + 16 - 1) = 70$$

$$x = 54$$

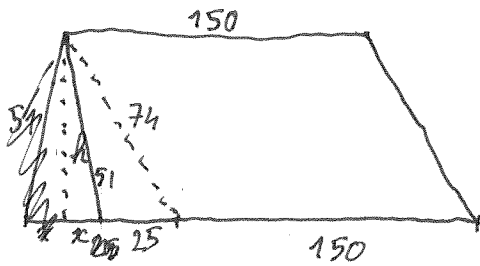
$$70 \times \boxed{71} = 4970 \quad 54 \times 55 = 270 \times 11 = 2970$$

$$n = 40 \rightarrow y = \frac{1}{2} (25 + 80 - 1) = 52$$

$$x = - \dots$$

$$n = 200 \rightarrow y = \frac{1}{2} (5 + 400 - 1) = 202$$

(11)



$$25^2 + 51^2 = 625 + 2601 = 3226$$

$$74^2 \neq 70^2 = 4900$$

$$74^2 = 5476$$

$$51^2 = h^2 + x^2$$

$$74^2 = h^2 + (x + 25)^2$$

$$74^2 - 51^2 = 50x + 25^2$$

$$50x = 5476 - 3226 = 2250 \rightarrow x = 45$$

$$h^2 = 51^2 - 45^2 = 6 \times 96 = 576$$

$$= 74^2 - 70^2 = 4 \times 144 = 576$$

$$h = 2 \times 12 = 24$$

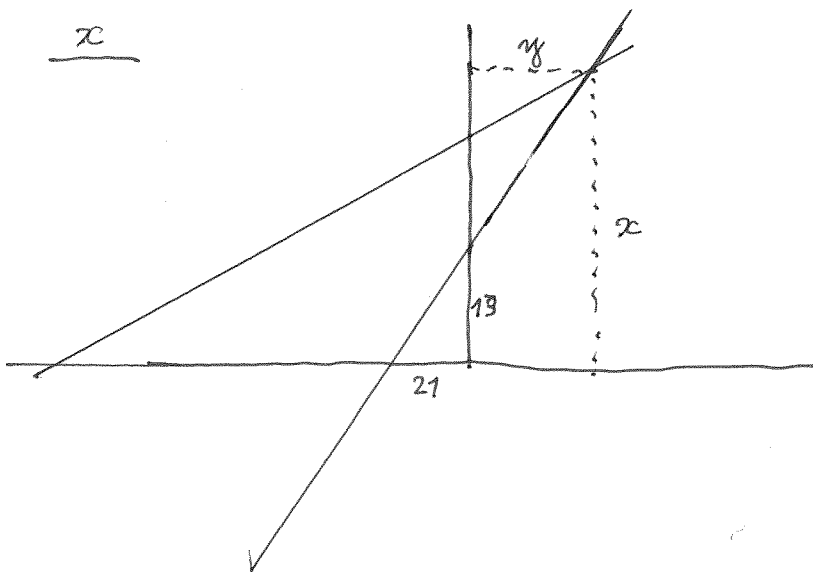
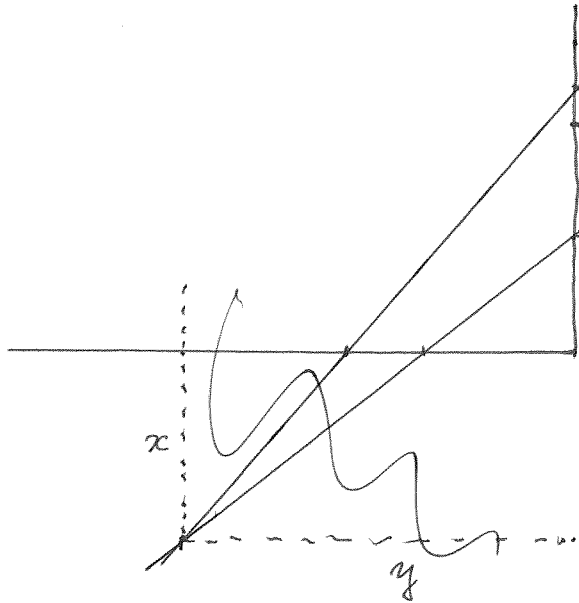
$$S = 24 \times \frac{150 + 175}{2} = 12 \times 325 = 6 \times 650 = 3 \times 1300 = 3900 \text{ m}^2$$

$$45 \text{ \$ / m}^2$$

$$P = 45 \times 3900 = 175500 \text{ \$}$$

$$= 5 \times 35100 = 175500$$

(12)



$$\frac{156}{252} = \frac{13}{21}$$

$$\frac{13}{21} - \frac{76}{125} = \frac{1625 - 1596}{\dots}$$

$$\begin{array}{r} 1250 \\ 375 \\ \hline 1625 \end{array} \quad \begin{array}{r} 1520 \\ 76 \\ \hline 1596 \end{array}$$

$$\frac{58}{29}$$

$$\frac{232}{377} = \frac{8}{13}$$

$$\frac{277}{29}$$

$$\frac{13}{21} - \frac{8}{13} = \frac{169 - 168}{\dots}$$

$$\frac{13}{21} = \frac{x - 156}{y} \quad \frac{8}{13} = \frac{x - 232}{y}$$

$$13y = 21(x - 156) \quad x?$$

$$8y = 13(x - 232)$$

$$8 \times 13y = 168x - 21 \times 8 \times 156$$

$$13 \times 8y = 169x - 13^2 \times 232$$

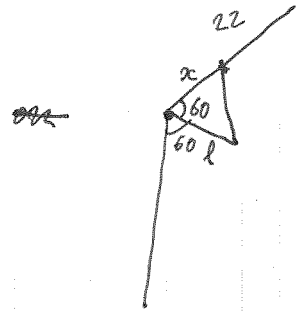
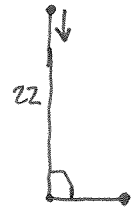
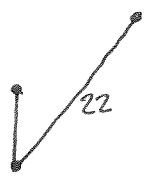
$$x = 13^2 \times 232 - 21 \times 8 \times 156$$

$$= 8(169 \times 29 - 21 \times 156)$$

$$= 8 \times 13(13 \times 29 - 21 \times 12)$$

$$= 8 \times 13(377 - 252) = 8 \times 13 \times 125 = 13000$$

13



$$\frac{360}{12} = 30^\circ/h$$

a

$$t=0 \rightarrow -90$$

$$t=60 \rightarrow 240$$

$$a = -90 + \frac{11}{2} t$$

$$a = -60 \Rightarrow t = \frac{60}{11}$$

$$a = 60 \Rightarrow t = \frac{300}{11}$$

$$\frac{22-x}{22} = \frac{t}{60}$$

$$x = l$$

$$\frac{22-l}{22} = \frac{1}{11}$$

$$22-l = 2$$

$$\frac{22-l}{22} = \frac{5}{11}$$

$$22-l = 10$$

$$l = 20 \text{ ou } 12$$

$$(((19 \% 4) \times 28) \% 5) \times 2 \dots$$

$$19 \% 4 = 3$$

$$3 \times 28 = 84$$

$$84 \% 5 = 4$$

$$4 \times 2 = 8$$

$$8 \% 3 = 2$$

$$2 \times 10 = 20$$

$$[(20 \% x) \times y] \% 13 = 4$$

~~10~~

- ↑
- 20 % 3 = 2
- 6 % 6 = 2
- 7 % 7 = 6
- 8 % 8 = 4
- 9 % 9 = 2
- 11 % 11 = 9
- 12 % 12 = 8
- ...
- 1

$$([1..9] \times y) \% 13 = 4$$

$$y = 1, 2, 4, 5, 6, 7, 8, 10, 12$$

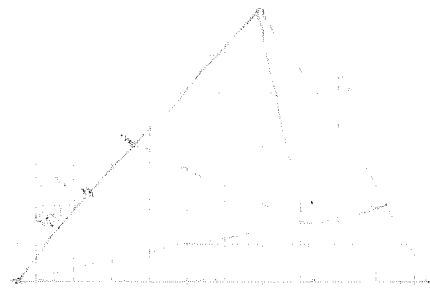
14

25

$$27 \ 28 \ 30 \ 31 \ 32 \ 33 \ 34 \mid 36$$

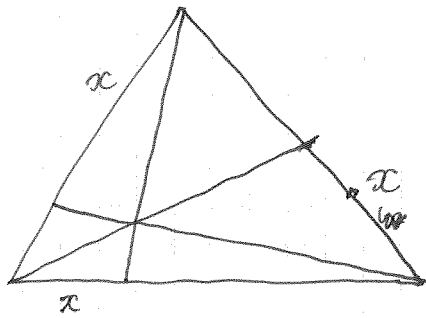
$$2 \times 9 + 7 = 25$$

$$\begin{matrix} 9 \\ 9 \end{matrix} \begin{bmatrix} 3, 9, 11, 13 \\ 16, 22, 24, 26 \\ 29 \end{bmatrix}$$



4 17 30 43 56 69
 82 95 108 121 134

3 11



$$\frac{x}{37,5-x} + \frac{x}{42,75-x} + \frac{x}{60-x} = 1$$

$$2x^3 - 140,25x^2 +$$

75 60 171

$$\frac{2x}{75-2x} + \frac{4x}{171-4x} + \frac{x}{60-x} = 1$$

$$8x^3 = -8x^3 + (75 \times 4 + 171 \times 2 + 60 \times 8)x^2 - (75 \times 171 + 75 \times 60 \times 4 + 171 \times 60 \times 2)x + 75 \times 171 \times 60$$

$$16x^3 - 2 \times (150 + 171 + 240)x^2 + 45 \times (285 + 400 + 456)x + 75 \times 171 \times 60$$

$$16x^3 - \frac{2 \times 561 x^2}{3 \times 11 \times 17} + \frac{45 \times 1141 x}{7 \times 163} + \dots$$

$$x = 3y$$

$$16y^3 - 2 \times 11 \times 17 y^2 + 5 \times 7 \times 163 y + 25 \times 19 \times 60$$

$$\begin{array}{r} 480 \\ -24 \\ \hline 456 \end{array}$$

$$25 \times 4 \times 4$$

$$19 \times 12 \times 2$$

$$\begin{array}{r} 19 \\ \times 75 \\ \hline 14725 \end{array} \quad \begin{array}{r} 13 \\ \times 75 \\ \hline 285 \end{array}$$

$$\left(1 + \frac{1}{\sqrt{2}}\right) \left(1 + \frac{1}{\sqrt{3}}\right) \left(1 + \frac{1}{\sqrt{5}}\right) \dots$$

$$1\ 003\ 002 = 1001 \times 1002$$

$$\frac{1}{\sqrt{i+1}} - \frac{1}{\sqrt{i}}$$

$$\frac{1}{\sqrt{x}}$$

$$\sqrt{x+1} - \sqrt{x} \stackrel{\#}{=} \frac{x+1-x}{\sqrt{x+1} + \sqrt{x}} = \frac{1}{\sqrt{x} + \sqrt{x+1}}$$

$$= \frac{\cancel{\sqrt{x(x+1)}} - x}{\sqrt{x}}$$

$$1 - \frac{1}{\sqrt{2}} \rightarrow \frac{1}{\sqrt{4}} \geq \frac{1}{2}$$

$$1 + \frac{3}{2} + \frac{5}{3} + \frac{7}{4} \dots$$

$$1 + 2 + 2 + 2$$

2004?