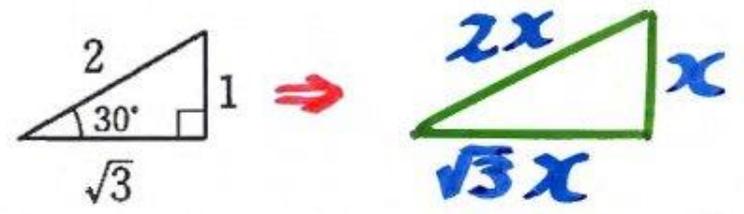
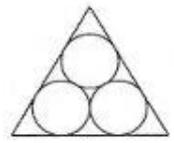
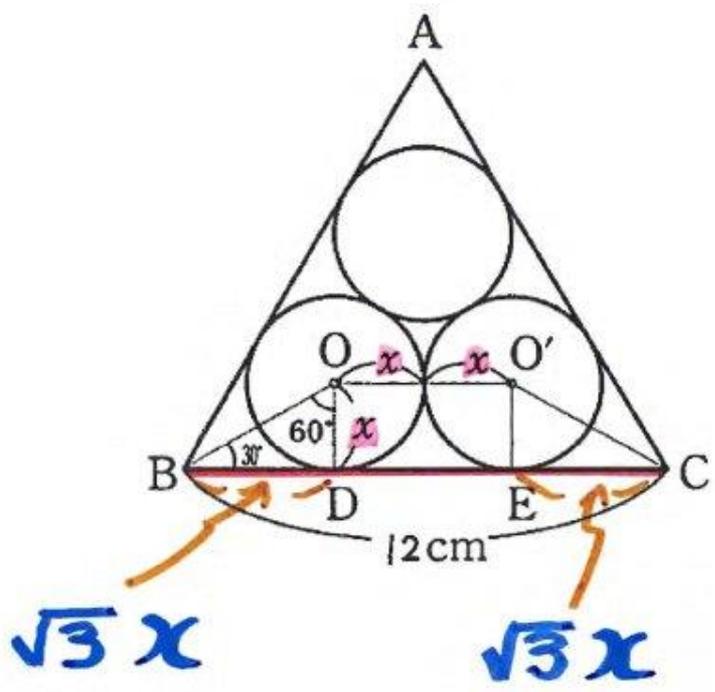


BJ3 / 34%



$$2 \cdot \sqrt{3}x + 2x = 12$$

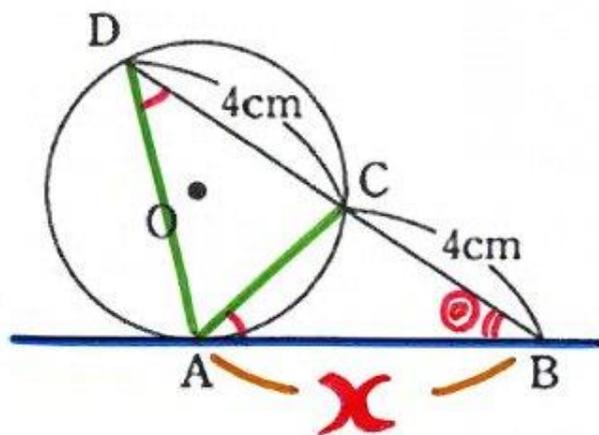
$$2(\sqrt{3} + 1)x = 12$$

$$x = \frac{6(\sqrt{3} - 1)}{(\sqrt{3} + 1)(\sqrt{3} - 1)}$$

$$= \underline{\underline{3(\sqrt{3} - 1)}}$$

接弦定理

相似形 



$$\triangle ABC \sim \triangle DBA$$

<2角が等しい>

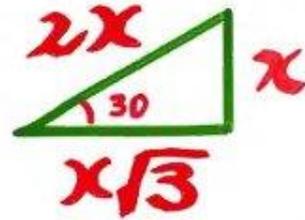
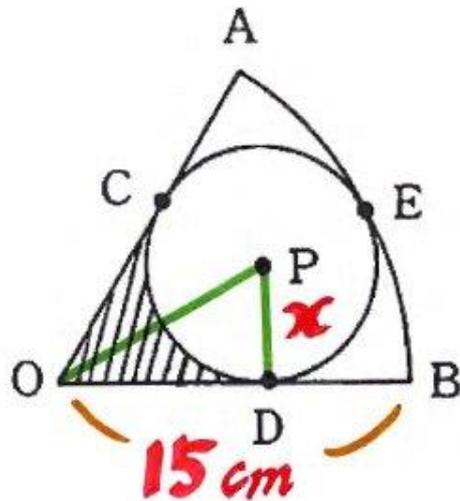
$$\frac{AB}{DB} = \frac{CB}{AB}$$

$$\frac{x}{8} = \frac{4}{x} \rightarrow \underline{x^2 = 32}$$

$$\begin{aligned} x &= \sqrt{32} = \sqrt{16 \times 2} \\ &= 4 \times 1.4 \\ &= \underline{5.6} \end{aligned}$$

BJ3 3

21/6



$$\begin{aligned} OP &= 2x \\ OE &= 3x = 15 \\ x &= 5 \end{aligned}$$

△ODP の2倍

- AP の1/3

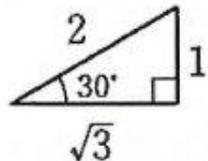
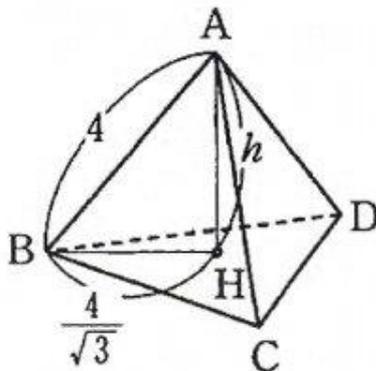
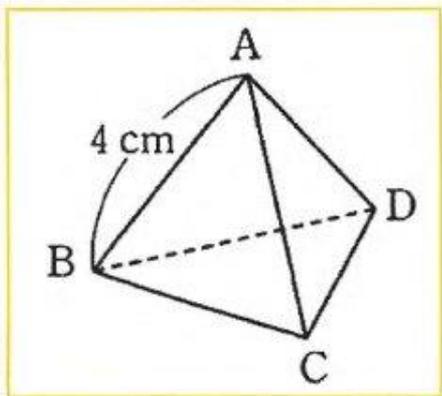
$$5 \times 5\sqrt{3} = 25 \times 1.73 = 43.3$$

$$5^2 \pi \times \frac{1}{3} = 26.2$$

$$43.3 - 26.2 = 17$$

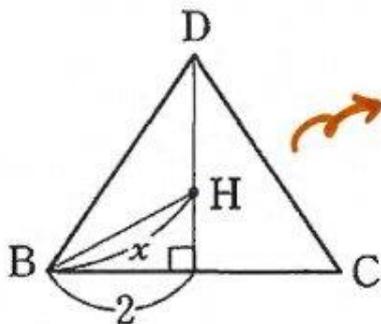
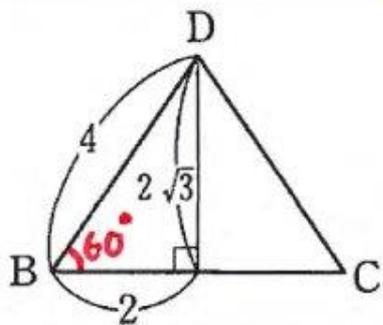
BJ3 **4** 19%

正四面体: 三角錐 \rightarrow $\frac{1}{3} \times \text{底面} \times \text{高}$



$$h^2 = 4^2 - \left(\frac{4}{\sqrt{3}}\right)^2$$

$$\Rightarrow h = \frac{4\sqrt{2}}{\sqrt{3}}$$



$$\frac{x}{2} = \frac{2}{\sqrt{3}}$$

$$x = \frac{4}{\sqrt{3}}$$

底面: $2 \times 2\sqrt{3} \times \frac{1}{2} \times 2$
 $= 4\sqrt{3}$

体积 $\frac{1}{3} \times 4\sqrt{3} \times \frac{4\sqrt{2}}{\sqrt{3}}$
 $= 16\sqrt{2}/3$

B6 8 80%

BJ3 5

水量A: 24a

水量B: 32b

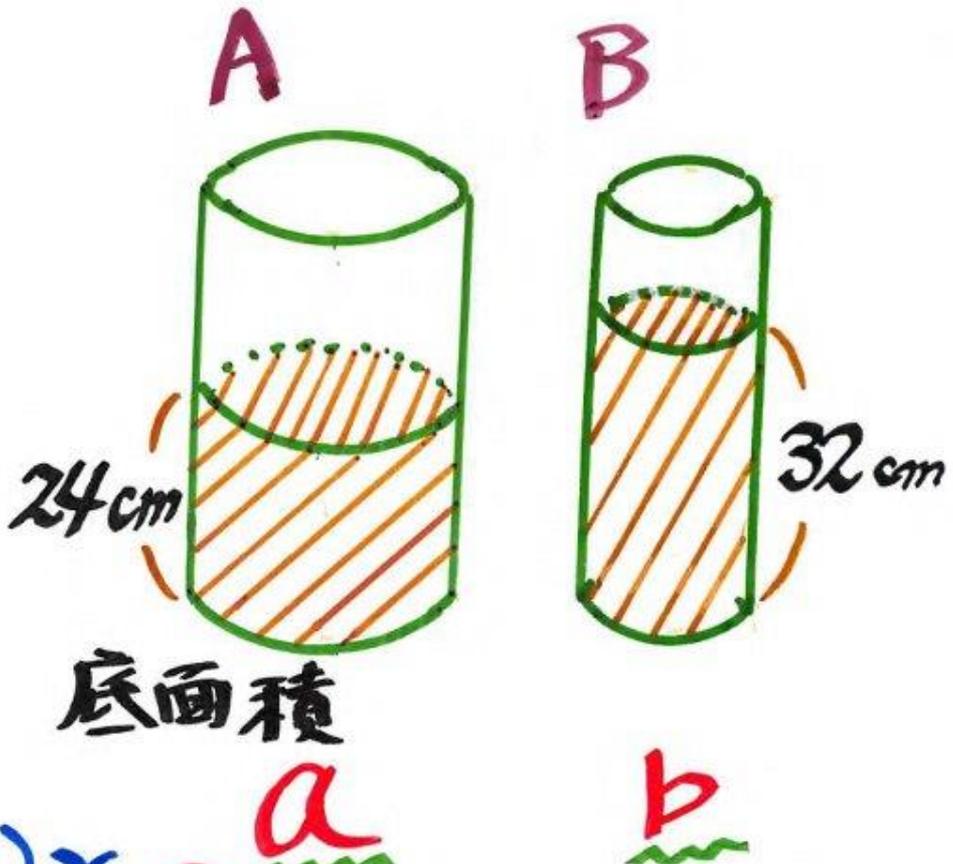
24a = 32b ①

同高x = 底面積(a+b)

底面積

24a + 32b = (a+b) · x ②

① & ②、 $64b = (\frac{7}{3}b)x \rightarrow x = \frac{64 \times 3}{7} = \underline{\underline{27.4 \text{ cm}}}$



BJ3 6 40%

8と12の最小公倍数 24

24の倍数より5大きい数が

100 ~ 500 いくつ?

$$500 \div 24 = \underline{20} \Rightarrow 480$$

$$100 \div 24 = \underline{4} \Rightarrow 104$$

← 5大きい数

$$\underline{20 - 4 + 1 = 17}$$

BJ3 **7** 33%

7と6の最小公倍数 42

7人づつ 4人余り
6人づつ 3人余り } 3人多い程度

42の倍数 } 420 ~ 460
より3人少い }
 $420 - 3 = 417$
 $462 - 3 = 459$

$459 \div 5 = 91$ 余り 4

BJ3 **8** 38%

$$\underline{7200 = 2^5 \times 3^2 \times 5^2}$$

ルートの中が偶数乗 \Rightarrow 整数

$$\begin{array}{r} 2) 7200 \\ \hline 2) 3600 \\ \hline 2) 1800 \\ \hline 2) 900 \\ \hline 2) 450 \\ \hline 3) 225 \\ \hline 3) 75 \\ \hline 5) 25 \\ \hline 5 \end{array}$$

$$\begin{array}{lll} n \text{ は} & 2^1, 2^3, 2^5 & 3 \text{通り} \\ & 3^0, 3^2 & 2 \text{通り} \\ & 5^0, 5^2 & 2 \text{通り} \end{array}$$

$$\underline{3 \times 2 \times 2 = 12 \text{ 通り}}$$

BJ3

9

44/1

$$(2m, 3n) = 2m + 3n = 36$$

数字を代入, 3nは偶数

自然数: 1, 2, 3, ...

n	2	4	6	8	10	12
$3n$	6	12	18	24	30	36
$2m$	30	24	18	12	6	0
m	15	12	9	6	3	0
	①	②	③	④	⑤	×

ВТЗ 10

$$\textcircled{5} \quad 4321 \rightarrow 4 \times 5^3 + 3 \times 5^2 + 2 \times 5 + 1$$

$$\underline{500 + 75 + 11 = 586} \textcircled{10}$$

$$\textcircled{6} \quad 1524 \rightarrow 6^3 + 5 \times 6^2 + 2 \times 6 + 4$$

$$\underline{216 + 180 + 16 = 412} \textcircled{10}$$

$$\underline{586 + 412 = 998}$$

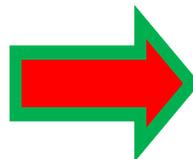
$$\begin{array}{r} 4 \overline{) 998} \\ 4 \overline{) 249} \quad 2 \\ 4 \overline{) 62} \quad 1 \\ 4 \overline{) 15} \quad 2 \\ \quad 3 \quad 3 \end{array}$$

$$\textcircled{10} \quad 998 \Rightarrow \textcircled{4} \underline{\underline{33212}}$$

BJ3 12 62%

	3	2	
5	X		8
9			12
		14	1

1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16



1	15	14	4
12	6	7	9
8	10	11	5
13	3	2	16

1	15	14	4
12	6	7	9
8	10	11	5
13	3	2	16

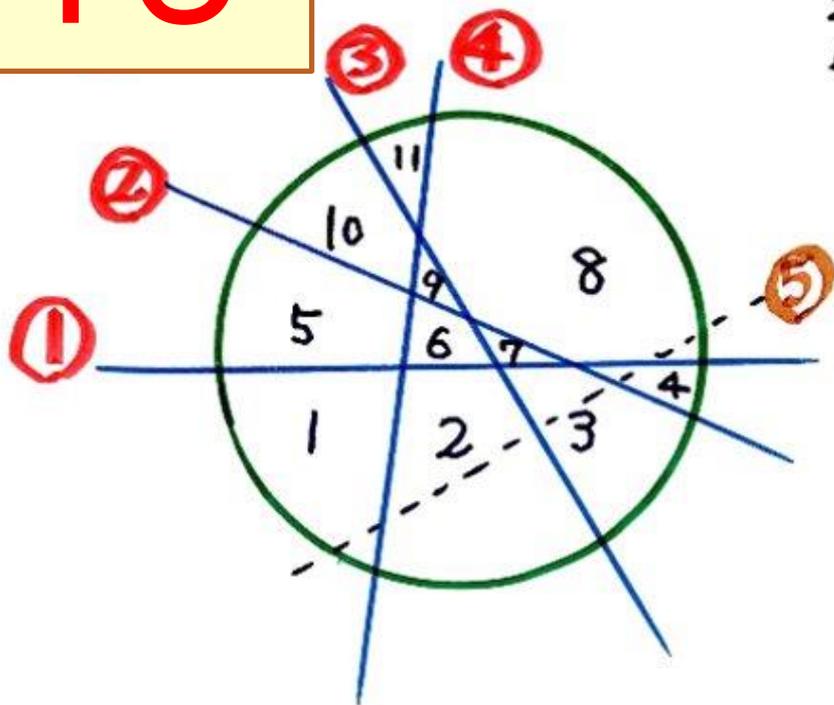


16	2	3	13
5	11	10	8
9	7	6	12
4	14	15	1



- ① 四隅(1, 4, 13, 16)と中央4個(6, 7, 10, 11)は固定
 - ② 各辺は対向する辺に交差して移動
- 対向する角を足すと17
1と16, 4と13

BJ3 15



規則...

階差數列

$$\frac{n(n+1)}{2} + 1$$

直線

1 2 3 4 5 6 7 8 9

分割

2 4 7 11 16 22 29 37 46

2 3 4 5 6 7 8 9