

鎌倉学園中学 2006年 3次 解説

$$[1] (1) 10 - \underbrace{(29-5)}_{24} \times 5 \div \underbrace{(25-49 \div 7-6)}_{12}$$

$$= 10 - \frac{24 \times 5}{12} = \underline{\underline{0}}$$

$$(2) 1 \frac{5}{34} \div 4 \frac{15}{19} \times 1 \frac{28}{57}$$

$$= \frac{39}{34} \times \frac{19}{91} \times \frac{85}{57} = \frac{5}{14}$$

$$(3) \left\{ \underbrace{(12-3 \frac{2}{3})}_{8 \frac{1}{3}} \times \underbrace{2.25}_{2 \frac{1}{4}} - 11 \right\} \div 1 \frac{3}{4}$$

$$= \left(\frac{25}{3} \times \frac{9}{4} - 11 \right) \times \frac{4}{31}$$

$$= \left(\frac{75}{4} - \frac{44}{4} \right) \times \frac{4}{31}$$

$$= \frac{31}{4} \times \frac{4}{31} = \underline{\underline{1}}$$

$$(4) \frac{1}{2} \times \frac{30}{77} + \frac{2}{3} \times \frac{10}{77} + \frac{3}{4} \times \frac{20}{77}$$

$$= \frac{30+20+15}{77} = \frac{65}{77}$$

$$[2] (1) 2 \frac{3}{8} - \left\{ 1 \frac{5}{6} - \left(\square - \frac{41}{57} \right) \times 1 \frac{7}{12} \right\} = 1 \frac{1}{4}$$

$$\left\{ \right\} = 2 \frac{3}{8} - 1 \frac{1}{8} = 1 \frac{1}{8}$$

$$\left\{ 1 \frac{5}{6} - \left(\right) \times 1 \frac{7}{12} \right\} = 1 \frac{1}{8} \quad \left(\right) \times 1 \frac{7}{12} = 1 \frac{5}{6} - 1 \frac{1}{8} = 1 \frac{20}{24} - 1 \frac{3}{24} = \frac{17}{24}$$

$$\left(\right) = \frac{17}{24} \div 1 \frac{7}{12} = \frac{17}{24} \times \frac{12}{19} = \frac{17}{38}$$

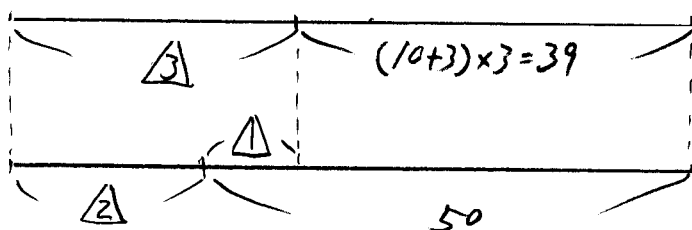
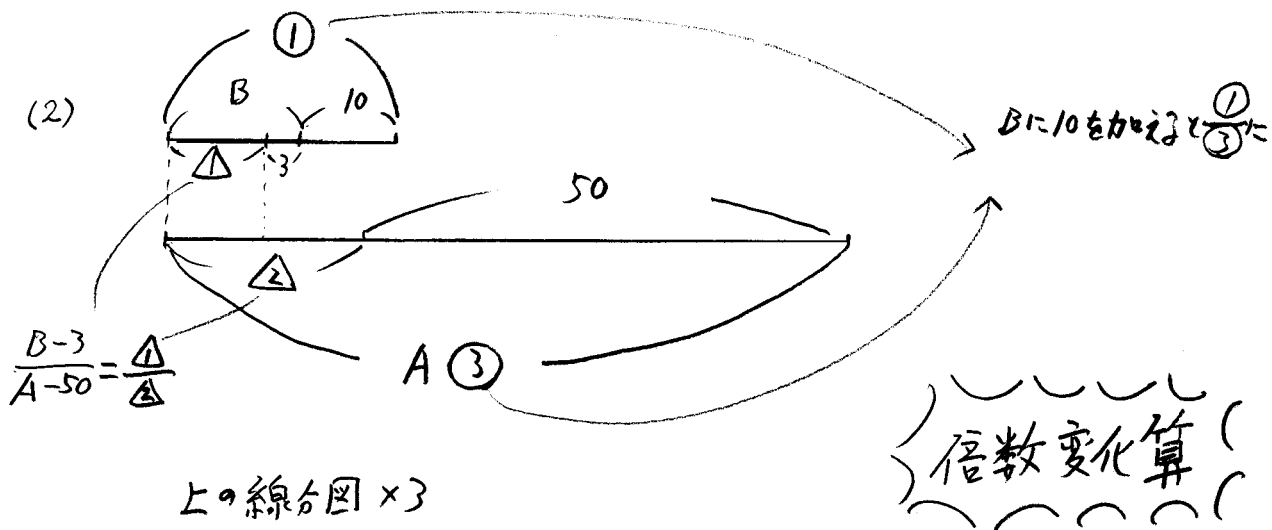
$$\square - \frac{41}{57} = \frac{17}{38} \quad \square = \frac{41}{57} + \frac{17}{38} = \frac{41}{19 \times 3} + \frac{17}{19 \times 2}$$

通分の
考え 57は19で割れるかも $\rightarrow 57 \div 19 = 3$

$$\square = \frac{41 \times 2 + 17 \times 3}{19 \times 3 \times 2} = \frac{133}{114} = 1 \frac{19}{114} = 1 \frac{1}{6}$$

$$\begin{array}{r} 6 \\ 19 \overline{) 114} \\ \underline{114} \\ 0 \end{array}$$

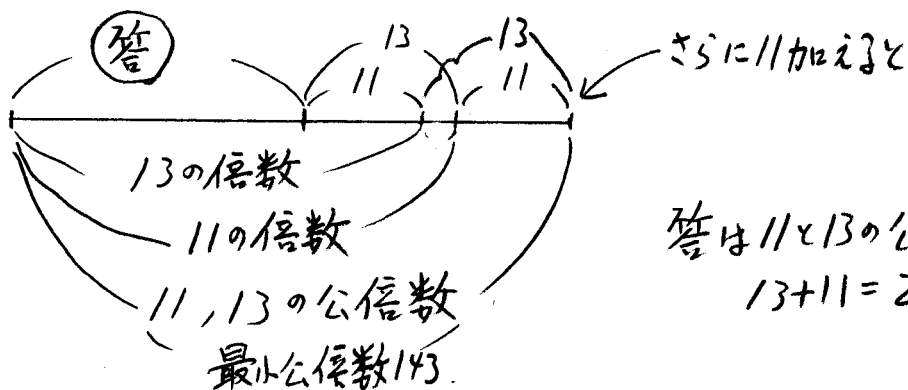
$$\underline{\underline{A. 1 \frac{1}{6}}}$$



$$\triangle = 50 - 39 = 11 \quad B = 11 + 3 = 14$$

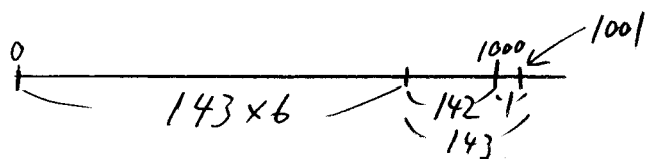
$$\textcircled{1} = 14 + 10 = 24 \quad A = \textcircled{3} = 24 \times 3 = 72 \quad A \begin{cases} A=72 \\ B=14 \end{cases}$$

(3)



答は11と13の公倍数から
 $13 + 11 = 24$ を引いた数

$$1000 \div 143 = 6 \cdots 142$$



$$1001 - 24 = 977$$

A. 977

(4)

$$150 \times 500 = 75000 \quad \dots \text{仕入れ値}$$

$$75000 + 9960 = 84960 \quad \dots \text{売り上げ}$$

$$150 \times (1 + 0.2) = 180 \quad \dots \text{定価}$$

$$180 \times (1 - 0.2) = 144 \quad \dots \text{定価の2割引き}$$

つるかめ算

$$84960 - 144 \times 500 = 12960 \quad \dots \text{もし2割引きで全部売ると72000円}$$

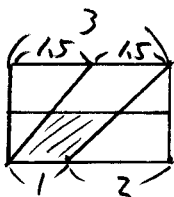
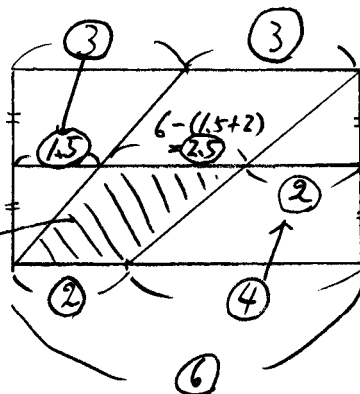
72000
実際には12960円多い

$$180 - 144 = 36 \quad \dots \text{1個につき144円を180円に変えれば36円売り上げがふえる}$$

$$12960 \div 36 = 360$$

A. 360個

[3] (1)

 $\times 2$ 

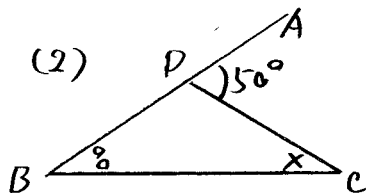
全体

$$⑥ \times ⑫ = ⑫$$

$$(\textcircled{2} + \textcircled{2.5}) \times \textcircled{1} \div 2$$

$$= 2.25$$

$$2.25 \div 12 = 2\frac{1}{4} \div 12 = \frac{3}{4} \times \frac{1}{12} = \frac{3}{16}$$

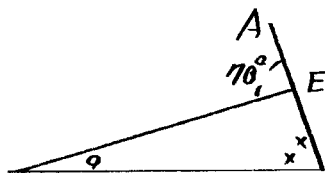
A. $\frac{3}{16}$ 倍 \rightarrow

$$\bigcirc \bigcirc + X = 50^\circ$$

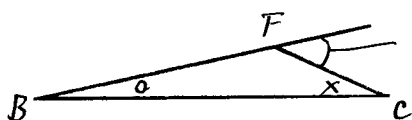
$$\bigcirc \bigcirc \bigcirc + X X X = 120^\circ$$

 $\downarrow \div 3$

$$\bigcirc + X = 40^\circ$$

 \rightarrow

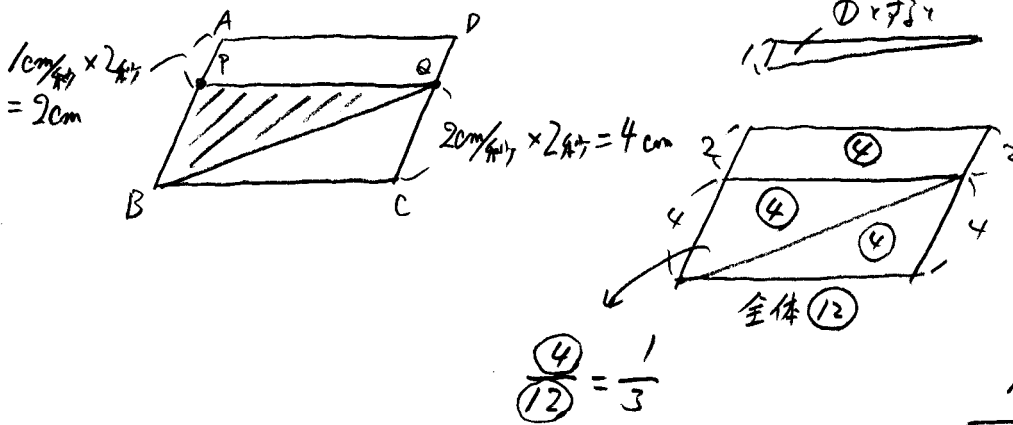
$$\bigcirc + X X = 70^\circ$$



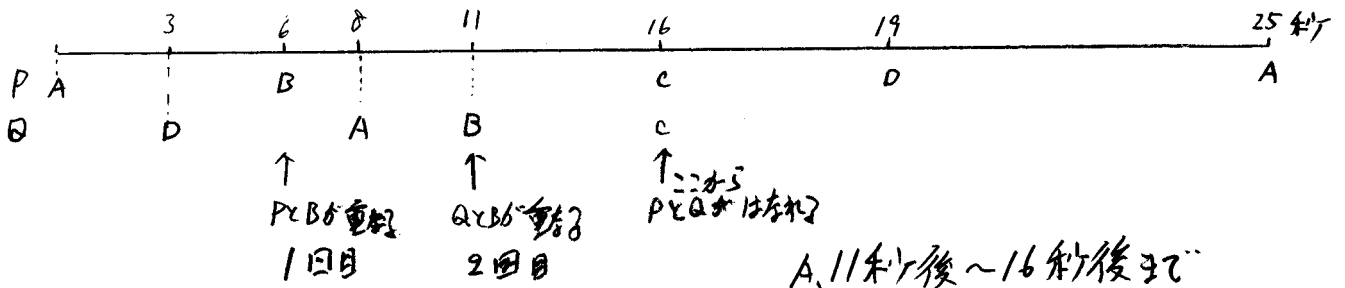
$$\bigcirc + X = 40^\circ \rightarrow 180 - 40 = 140$$

A. 140°

[4] (1) 2秒後



(2) P, Q, Bのどれかが重なり時, P, Q, Bが1つの直線上にあり時 三角形に存在しない。

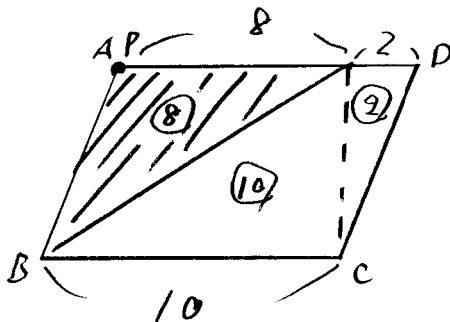


(3) P: 50分 = 60 \times 50 = 3000秒 \rightarrow 3000cm

1周 32cm $3000 \div 32 = 93$ 周 $\cdots 24$ cm \rightarrow DからAに2cmの所

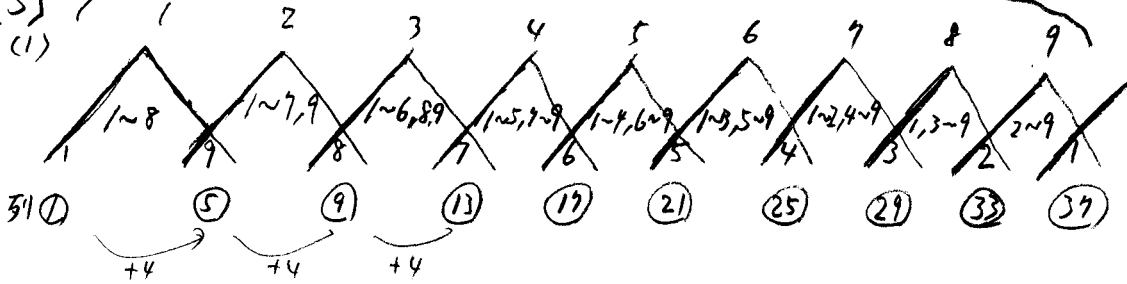
Q: 2cm/秒 \times 3000秒 = 6000cm

$6000 \div 32 = 187$ 周 $\cdots 16$ cm \rightarrow Aの所



くり返し

[5]
(1)



$$1+2+\dots+9 = (1+9) \times 9 \div 2 = 45$$

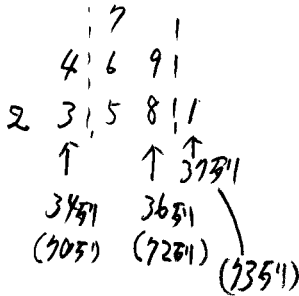
$\times 9$

(1~9)の9: \rightarrow ちょうど9~1 / 1つずつたりないので

$$45 \times 9 - 45 = 360$$

A. 360

(2) 37列目は1列目と同じ 70列目 = 70 - 36 = 34列目と同じ

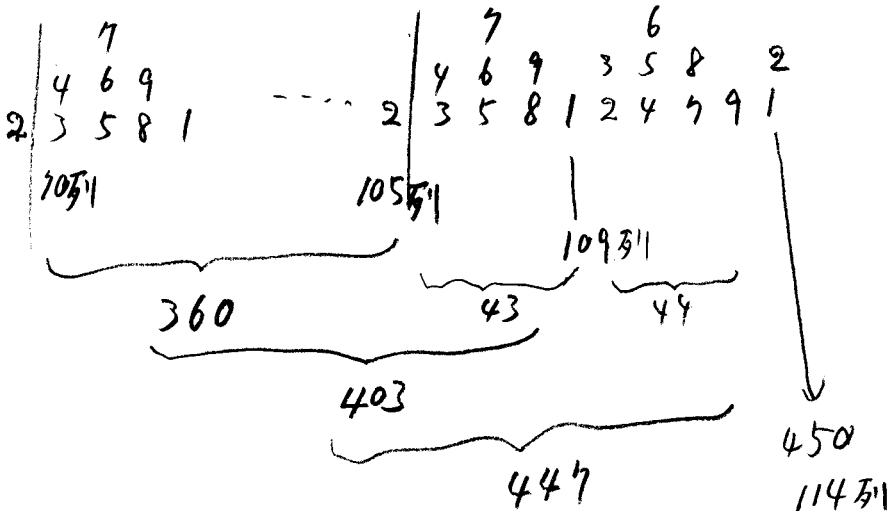


$$36 \text{列目までの合計} - (5+6+7+8+9) = 360 - 35 = 325$$

A. 325

(3) $\langle\langle 70, 1 \square \rangle\rangle = 450 \rightarrow 360$ より大きい.

$$70 + 35 = 105 \rightarrow \langle\langle 70, 105 \rangle\rangle = 360$$



おと程度 予想したら後は

力技(で)解く

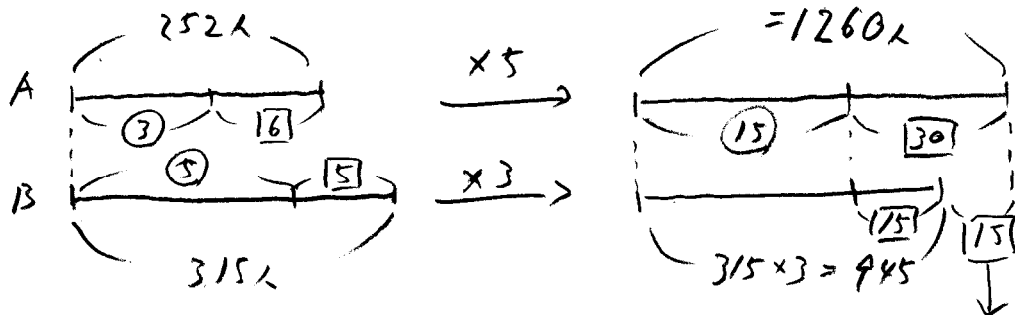
力技と実力のうち

A. 114

$$(6) \quad u) \quad 567 \times \frac{4}{4+5} = \overset{63}{567} \times \frac{4}{9} = 252$$

A 252人

$$(2)(3) \quad B = 567 - 252 = 315$$



$$\boxed{15} = 1260 - 945 = 315$$

$$\boxed{11} = 21人$$

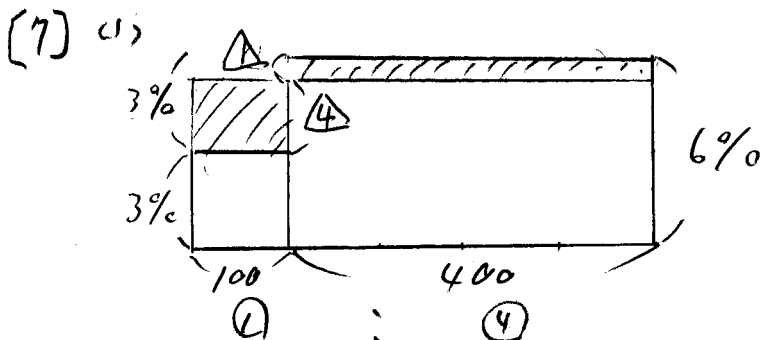
$$\boxed{16} = 21 \times 6 = 126人$$

(3) 答 126人

$$\frac{(252 - 126) \times \frac{3+5}{2}}{126}$$

$$= \overset{42}{126} \times \frac{8}{3} = 336$$

(2) 答 A 336人

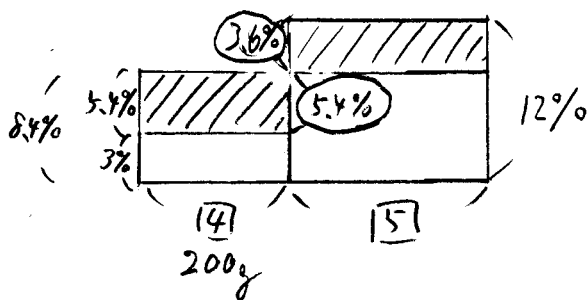


$$3\% \times \frac{4}{1+4} = 2.4\%$$

$$3 + 2.4 = 5.4$$

A 5.4%

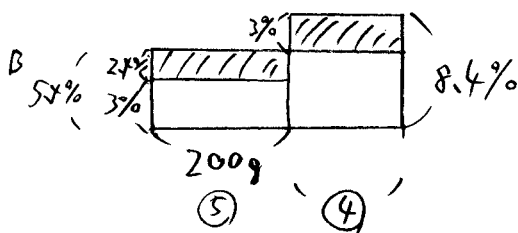
(2)



$$\begin{aligned} 2:3 \\ 6:4 \\ 7.2:5.4 = 200:\square \end{aligned}$$

A. 300g

(3) Aは $500 - (100 + 200) = 200g$



$$\begin{aligned} 2.4:3 = 24:30 \\ = 4:5 \end{aligned}$$

$$5:4 = 200:\square$$

$$\square = \frac{4 \times 200}{5} = 160$$

A. 160g

[8] (1) グラスは10分まで0の注 → Aの30cmまで10分おかして
Aの10分の所までの体積

$$(20 \times 30 \times 40) \div 10\% = 2400 \text{ cm}^3$$

A. 2400 cm³

(2) Bの20cmまで10分おかして → $2400 \times 10\% = 2400 \text{ cm}^3$ 入った。

$$B \text{ の } 20 \text{ cm までの体積} = 20 \times 20 \times 40 = 16000 \text{ cm}^3$$

その差 $24000 - 16000 = 8000 \text{ cm}^3$ が残った10分で出た。

$$8000 \div 10 = 800$$

A. 800 cm³

(3) Cに水が入りはじめた(20分後)52分までの32分で $2400 \times 32 = 76800 \text{ cm}^3$

$$\left. \begin{aligned} B \text{ の } 20 \text{ cm} \sim 30 \text{ cm} \text{ の高さの差 } 10 \text{ cm に } 40 \times 10 \times 40 = 16000 \text{ cm}^3 \\ C \text{ の } 20 \text{ cm} \text{ の高さまで } 20 \times 20 \times 40 = 16000 \text{ cm}^3 \end{aligned} \right\} 32000 \text{ cm}^3 \text{ に32分}$$

$$76800 - 32000 = 44800 \quad 44800 \div 32 = 1400 \text{ ... Bの穴から出る水}$$

$$2400 - 1400 = 1000 \text{ cm}^3/\text{分} \text{ ... 実際に出る水}$$

最後の10cmで

$$(60 \text{ cm} \times 10 \text{ cm} \times 40 \text{ cm}) \div 1000 = 24 \text{ 分} \quad 52 + 24 = 76$$

A. 76分後