

関東学院中学校

2005

$$\begin{aligned}
 [1] & \left\{ \left( 4.5 - 2\frac{1}{3} \right) \times \frac{27}{26} - 2\frac{1}{5} \right\} \div \frac{5}{24} \\
 &= \left\{ \left( 4\frac{1}{2} - 2\frac{1}{3} \right) \times \frac{27}{26} - 2\frac{1}{5} \right\} \times \frac{24}{5} \\
 &= \left\{ \left( 4\frac{3}{6} - 2\frac{2}{6} \right) \times \frac{27}{26} - 2\frac{1}{5} \right\} \times \frac{24}{5} \\
 &= \left( 2\frac{1}{6} \times \frac{27}{26} - 2\frac{1}{5} \right) \times \frac{24}{5} \\
 &= \left( \frac{1}{2} \times \frac{27}{26} - 2\frac{1}{5} \right) \times \frac{24}{5} \\
 &= \left( \frac{9}{4} - \frac{11}{5} \right) \times \frac{24}{5} \\
 &= \frac{45-44}{20} \times \frac{24}{5} \\
 &= \frac{1}{20} \times \frac{24}{5} = \frac{6}{25}
 \end{aligned}$$

$$\begin{aligned}
 [2] & \frac{2}{21} + \frac{1}{3} \times \left( \square - \frac{20}{21} \right) = \frac{7}{9} \\
 & \quad \quad \quad = \frac{7}{9} - \frac{2}{21} = \frac{49-6}{63} = \frac{43}{63} \\
 & \frac{1}{3} \times ( ) = \frac{43}{63} \quad ( ) = \frac{43}{63} \div \frac{1}{3} = \frac{43}{63} \times \frac{3}{1} \\
 & \square - \frac{20}{21} = \frac{43}{21} \quad \square = \frac{43}{21} + \frac{20}{21} = \frac{63}{21} = \underline{\underline{3}}
 \end{aligned}$$

[3] 具体的な数字で考えると良い。

1周15mとすると

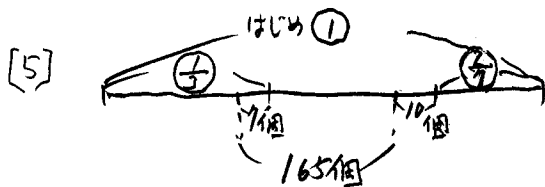
5mおきなら3本 3mおきなら5本 → 2本の差  
20本の差をつくるには  $20 \div 2 = 10$  倍の長さ

$$15m \times 10 = 150m$$

A. 150(m)

$$\begin{aligned}
 [4] & 3.4 \times 40 = 136 \cdots \text{全員の合計点} \\
 & 136 - (1 \times 3) + 3 \times 10 + 4 \times 13 + 6 \times 2 \\
 &= 136 - (3 + 30 + 52 + 12) \\
 &= 136 - 97 \\
 &= 39 \cdots \cdots 2\text{点と}5\text{点の人の合計点}
 \end{aligned}$$

$$\begin{aligned}
 & 40 - (3 + 10 + 13 + 2) \\
 &= 12 \text{人} \cdots 2\text{点と}5\text{点の人の合計人数} \\
 & \rightarrow \text{3点計算} \\
 & (39 - 2 \times 12) \div (5 - 2) \\
 &= (39 - 24) \div 3 = 5 \text{人} \quad A. \underline{\underline{5(人)}}
 \end{aligned}$$



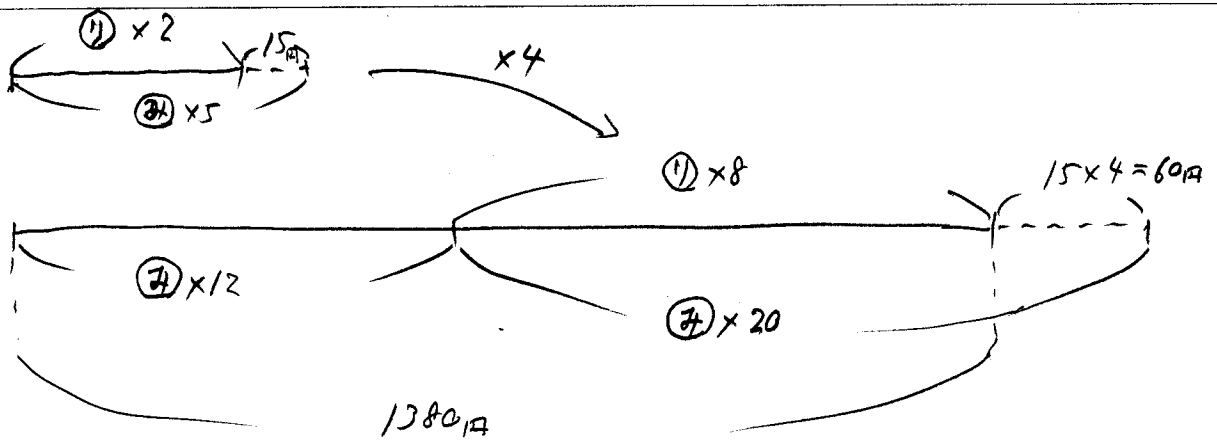
$$1 - \left( \frac{1}{3} + \frac{2}{7} \right) = \frac{21-7-6}{21} = \left( \frac{8}{21} \right) \rightarrow 165 - 7 + 10 = 168 \cdots \text{全体の} \frac{8}{21}$$

$$168 \div \frac{8}{21} = \cancel{168} \times \frac{21}{8} = 441$$

A. 441(個)

$$\begin{array}{r}
 21 \\
 \times 21 \\
 \hline
 21 \\
 42 \phantom{0} \\
 \hline
 441
 \end{array}$$

[6]



$$(1380 + 60) \div (12 + 20) = 1440 \div 32 = 45 \dots (7)1$$

$$(45 \times 5 - 15) \div 2 = 105$$

A 105日

[7]

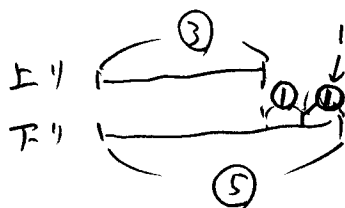
$$\begin{aligned} 50\text{m/分} \times 6\text{分} &= 300\text{m} \dots \text{次郎は6分で300m} \\ 70\text{m/分} \times 6\text{分} &= 420\text{m} \dots \text{三郎} \end{aligned} \quad \left. \vphantom{\begin{aligned} 50\text{m/分} \times 6\text{分} &= 300\text{m} \\ 70\text{m/分} \times 6\text{分} &= 420\text{m} \end{aligned}} \right\} 300 + 420 = 720\text{m} \quad \text{BC間}$$

次郎は太郎に1分ごとに  $75 - 50 = 25\text{m}$  ずつ追いつかれる。  
追いつくまでに  $6 + 8 = 14\text{分}$  かかると。  
 $25 \times 14 = 350\text{m}$  差がある (AB間)。

$$720 + 350 = 1070\text{m}$$

A 1070m

[8]

時間・比 5:3  $\rightarrow$  速さの比 3:5

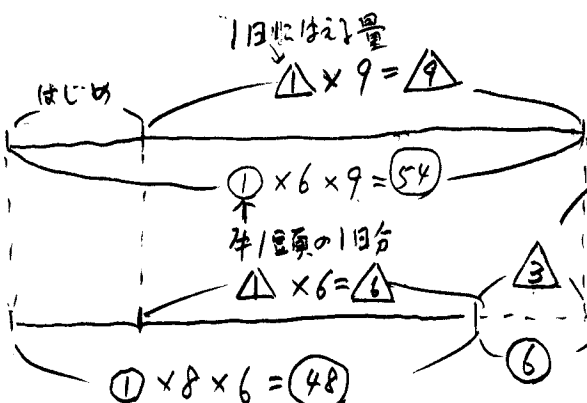
11.5km/時

$$(3) = 3.5 \times 3 = 10.5\text{km/時 上り}$$

$$10.5 \times 5\text{時間} = 52.5$$

A 52.5km

[9]



1日あたりの量

$$\Delta \times 9 = 9$$

$$(1) \times 6 \times 9 = 54$$

4/5日の1日分

$$\Delta \times 6 = 6$$

$$(1) \times 8 \times 6 = 48$$

1日分

$$\Delta = (2) \rightarrow \Delta = (18)$$

$$54 - 18 = 36 \dots \text{はじめの量}$$

11日間で1日に  $(11) - (2) = 9$  減る。

$$(36) \div (9) = 4$$

A 4日

りんご  
柿  
みかん

	(余り)	
		(3) $76 - 55 = 21$
		(5) $111 - 76 = 35$

A 7 人

$$\frac{2}{2}, \frac{4}{5}, \frac{6}{8}, \frac{8}{11}, \frac{2}{14}, \frac{4}{17}, \frac{6}{20}, \frac{8}{23}, \frac{2}{26}, \dots$$

分母是 2, 5, 8, 11

## 等差数列

$\begin{array}{ccc} \curvearrowright & \curvearrowright & \curvearrowright \\ +3 & +3 & +3 \end{array} \rightarrow 3 \times \square$  番目 - 1

$$3 \times 50 - 1 = 149$$

A,  $\frac{4}{149}$

$$3 * 2 = (3+2) \times (2 \times 2) = 5 \times 4 = 20.$$

$$20 * ( ) = (20 + 2) \times \{ ( ) \times 2 \} = 22 \times \{ ( ) \times 2 \} = 880$$

$$( ) = 880 \div 22 \div 2 = 20$$

$$\square * 1 = (\square + 2) \times (1 \times 2) = (\square + 2) \times 2 = 20$$

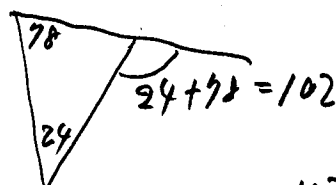
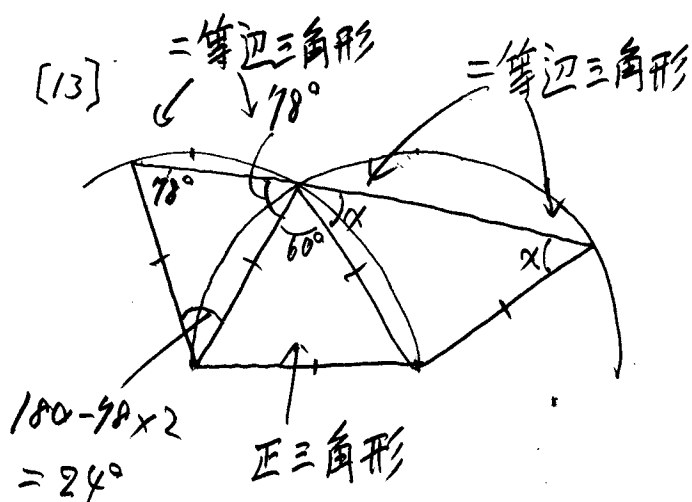
$$\square = 20 \div 2 - 2 = 8$$

A 8

[13]

二、等边三角形

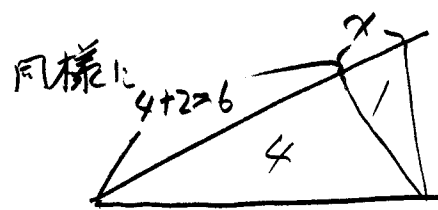
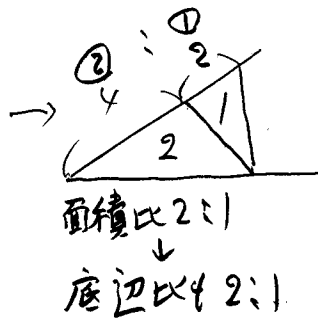
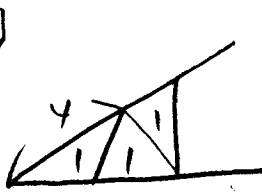
## 二、等边三角形



$$x = 102 - 60 = 42$$

A 42<sup>9</sup>

[14]



$$4:1 = 6:x \quad x = \frac{3}{2} \quad A \underline{1.5 \text{ cm}}$$

- [15] Q市の1°を1人と考えよ Q市のB党54人  $\rightarrow 54 \times 1.5 = 81$ 人 P市のB党  
 P市の1°は  $\frac{81}{32} = \frac{9}{8}$ 人 A党は  $176 \times \frac{9}{8} = 198$ 人 全体で  $360 \times \frac{9}{8} = 405$ 人  
 両市で A党  $198 + 108 = 306$ 人 全体  $360 + 405 = 765$

$$360^\circ \times \frac{306}{765} = 144$$

$$\underline{A \ 144^\circ}$$