

$$\text{II} \quad (1) 101+102+103+104+105-91-92-93-94-95$$

$$=(101-91)+(102-92)+(103-93)+(104-94)+(105-95)$$

$$=10 \times 5 = \underline{\underline{50}}$$

$$(2) 3\frac{1}{4} - (2\frac{3}{5} \div \frac{4}{5} - 1.25) + 0.625 \times 2\frac{2}{3} \div 1\frac{1}{3}$$

$$= 3\frac{1}{4} - (\frac{13}{5} \times \frac{5}{4} - \frac{5}{4}) + \frac{5}{8} \times \frac{8}{3} \times \frac{3}{4}$$

$$= 3\frac{1}{4} - (\frac{13}{4} - \frac{5}{4}) + \frac{5}{4}$$

$$= 3\frac{1}{4} - \frac{8}{4} + \frac{1}{4} = 1\frac{1}{4} + 1\frac{1}{4} = \underline{\underline{2\frac{1}{2}}}$$

$$(3) 12 \times (8 - \frac{15}{2} + \frac{10}{3} - \frac{23}{6} + \frac{73}{12})$$

$$= 12 \times (\frac{96}{12} - \frac{90}{12} + \frac{40}{12} - \frac{46}{12} + \frac{73}{12})$$

$$= 12 \times \frac{73}{12} = \underline{\underline{73}}$$

$$(4) (\square \div 0.25 + \frac{8}{3}) \times 2.25 = 33$$

$$(\quad) = 33 \div 2.25 = \frac{11}{3} \times \frac{4}{3} = \frac{44}{9}$$

$$\square \div 0.25 + \frac{8}{3} = \frac{44}{9}$$

$$\square \div \frac{1}{4} = \frac{44}{9} - \frac{8}{3} = \frac{36}{9} = 12$$

$$\square = 12 \times \frac{1}{4} = 3$$

A.3

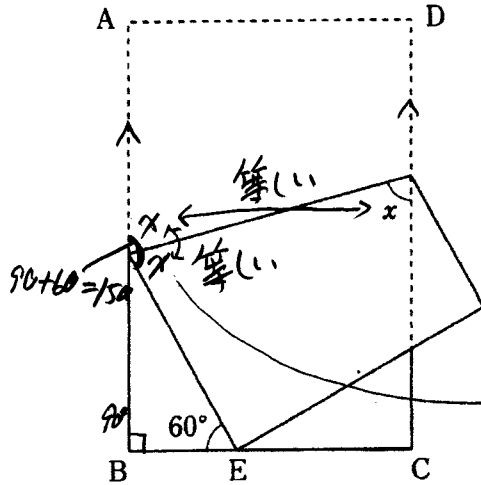
2 (1)

$$\begin{array}{r} 3 \overline{) 36, 126, 270} \\ 3 \overline{) 12, 42, 90} \\ 2 \overline{) 4, 14, 30} \\ \underline{2, 7, 15} \end{array}$$

$\rightarrow 3 \times 3 \times 2 = 18 \dots$  最大公約数 18

$3 \times 3 \times 2 \times 2 \times 7 \times 15 = 3780 \dots$  最小公倍数 3780

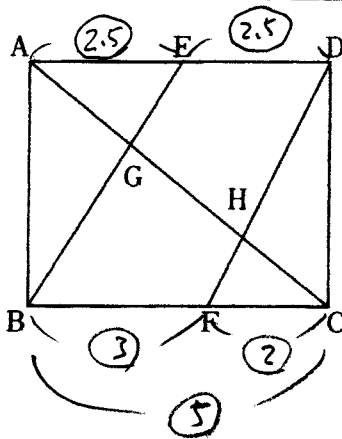
(2)



$150 \div 2 = 75$

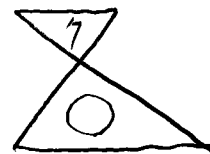
A.  $75^\circ$

(3)



(1)  $2.5 : 5 = 1 : 2 \dots$  相似比

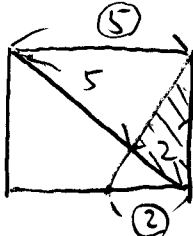
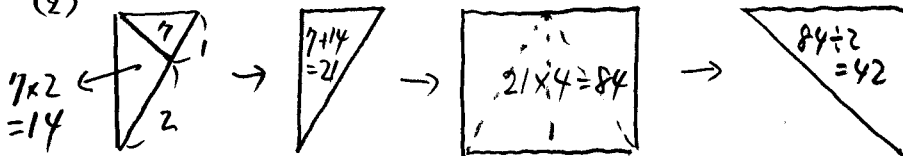
$1 \times 1 : 2 \times 2 = 1 : 4$   
面積比



$7 \times 4 = 28$

A.  $28 \text{ cm}^2$

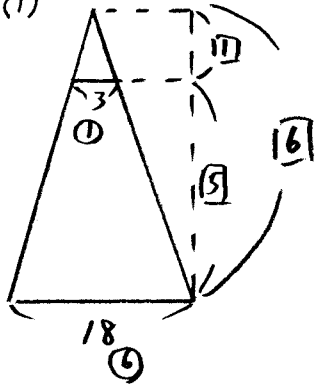
(2)



$42 \times \frac{2}{5+2} = 12$

A.  $12 \text{ cm}^2$

3 (1)



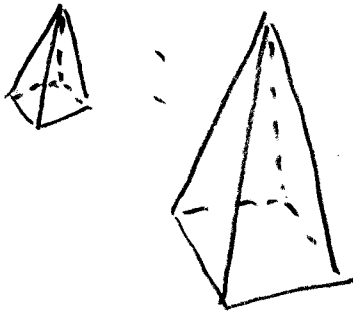
$$[5] = 20 \text{ cm} \quad [1] = 20 \div 5 = 4 \text{ cm}$$

$$[6] = 4 \times 6 = 24 \text{ cm}$$

$$\frac{18 \times 18 \times 24 \times \frac{1}{3}}{2592} - \frac{3 \times 3 \times 4 \times \frac{1}{3}}{12} = 2580$$

A. 2580 cm<sup>3</sup>

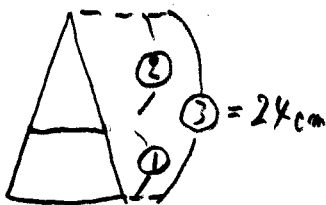
(2)  $2592 - 1824 = 768$



$$= 768 : 2592 = 8 : 27$$

$$= 2 \times 2 \times 2 : 3 \times 3 \times 3$$

相似比  $\Rightarrow 2 : 3$



$$[3] = 24 \text{ cm} \quad [1] = 24 \div 3 = 8$$

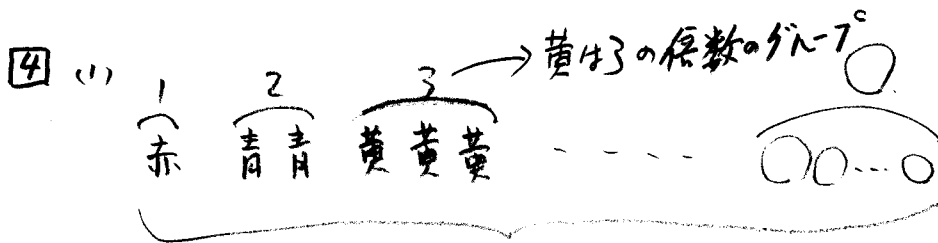
A. 8 cm

相似比

相似比  $a : b$

面積比  $a \times a : b \times b$

體積比  $a \times a \times a : b \times b \times b$



$$1+2+3+\dots 0 = (1+0) \times 0 \div 2 \rightarrow 100 \text{ に近い数}$$

ヒント  $15 \times 15 = 225$  の近く

$$(14+1) \times 14 \div 2 = 105$$

$$(13+1) \times 13 \div 2 = 91 \rightarrow 13 \text{ グループの最後が } 91 \text{ 番}$$

100番は14グループ → 青  
15グループ (3の倍数なので黄)

A. 青色

(2)  $(1+\square) \times \square \div 2 \rightarrow 2007 \text{ に近い数}$

ヒント  $60 \times 60 = 3600$        $90 \times 90 = 4900$

$$(62+1) \times 62 \div 2 = 1953 \rightarrow 62 \text{ グループの最後が } 1953$$

$$(63+1) \times 63 \div 2 = 2016$$

63グループは黄色  
 $2007 - 1953 = 54$   
1つ前の黄色は60グループ

$$\textcircled{1} \quad \textcircled{2} \quad \dots \quad \textcircled{20}$$

$$3 + 6 + \dots + 60$$

$$= (3+60) \times 20 \div 2 = 630$$

$$630 + 54 = 684$$

A. 684個



16

$$(1) \begin{array}{r} 4 \overline{) 84, 120} \\ 3 \overline{) 21, 30} \\ \hline 7, 10 \end{array}$$

$$4 \times 3 = 12$$

$$\begin{array}{ccc} 1 & 2 & 3 \\ 12 & 6 & 4 \end{array}$$

A. 6

$$(2) \begin{array}{r} 50 \overline{) 150, 1500} \\ 3 \overline{) 21, 30} \\ \hline 7, 10 \end{array}$$

$$50 \times 3 = 150$$

$$\begin{array}{cccccc} 1 & 2 & 3 & 5 & 6 & 10 \\ 150 & 75 & 50 & 30 & 25 & 15 \end{array} \left. \vphantom{\begin{array}{cccccc} 1 & 2 & 3 & 5 & 6 & 10 \\ 150 & 75 & 50 & 30 & 25 & 15 \end{array}} \right\} 12 \text{個}$$

$$\begin{array}{r} 4 \overline{) 352, 896} \\ 8 \overline{) 88, 224} \\ \hline 11, 28 \end{array}$$

$$4 \times 8 = 32$$

$$\begin{array}{ccc} 1 & 2 & 4 \\ 32 & 16 & 8 \end{array} \left. \vphantom{\begin{array}{ccc} 1 & 2 & 4 \\ 32 & 16 & 8 \end{array}} \right\} 6 = 12 + 6 = 18$$

A. 18

(3)  $\langle\langle x, 30 \rangle\rangle = 1 \rightarrow x \text{ と } 30 \text{ の公約数が } 1 \text{ だけ (共通で割り切れる数だけ)}$

↓

$$\begin{array}{cccc} 1 & 2 & 3 & 5 \\ 30 & 15 & 10 & 6 \end{array} \left. \vphantom{\begin{array}{cccc} 1 & 2 & 3 & 5 \\ 30 & 15 & 10 & 6 \end{array}} \right\} x \text{ は } 2, 3, 5 \text{ の倍数でない数}$$

$$100 \div 2 = 50$$

$$100 \div 3 = 33 \dots 1$$

$$100 \div 5 = 20$$

$$100 \div 6 = 16 \dots 4$$

$$100 \div 10 = 10$$

$$100 \div 15 = 6 \dots 10$$

$$100 \div 30 = 3 \dots 10$$

1~100 の中の 2, 3, 5 の倍数の個数は

$$50 + 33 + 20 - 16 - 10 - 6 + 3 = 74 \rightarrow 100 - 74 = 26$$

A. 26個

$$(4) 180 = 2 \times 2 \times 3 \times 3 \times 5$$

この中の組み合わせて約数がきまり、4個なのは 6, 10, 15

$$6 = 2 \times 3$$

$$y = 2 \times 3 \times \dots$$

ここに 2, 3, 5 の倍数が入ると公約数が 6 に存在しない。

入る数は 1, 7, 11, 13

$$\begin{array}{cccc} 6 \times 1 = 6 & 6 \times 7 = 42 & 6 \times 11 = 66 & 6 \times 13 = 78 \\ 144 & & & \end{array}$$

$$10 = 2 \times 5$$

$$y = 2 \times 5 \times \dots$$

2, 3 の倍数は入らない

入る数 1, 5, 7

$$10 \times 1 = 10$$

$$10 \times 5 = 50$$

$$10 \times 7 = 70$$

$$15 = 3 \times 5$$

$$y = 3 \times 5 \times \dots$$

2, 3 の倍数は入らない

入る数 1, 5

$$15 \times 1 = 15$$

$$15 \times 5 = 75$$

A 10, 15, 42, 50, 66, 70, 75, 78