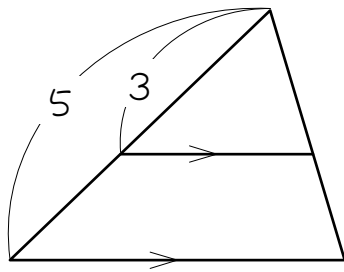


ステップ1 ピラミッド相似の面積比 → 最後に引き算

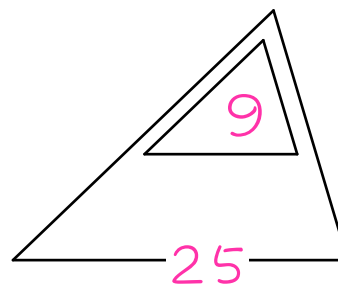
1

例にならって、各部分の面積比をかきこみなさい。

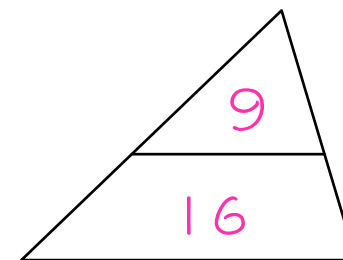
例)



大小2つの三角形
相似比は 3 : 5

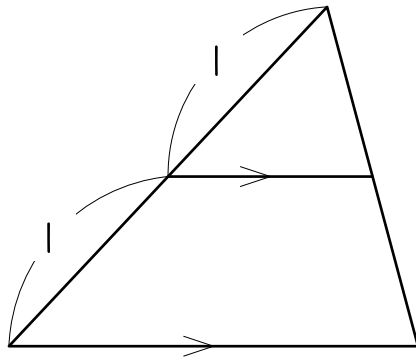


面積比は
 $3 \times 3 : 5 \times 5$
 $= 9 : 25$

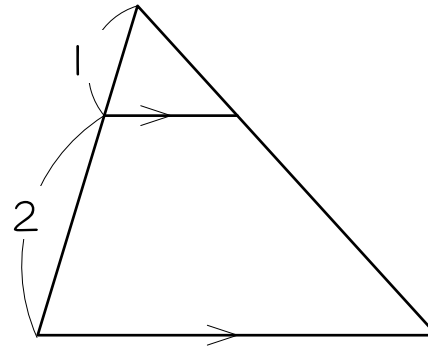


台形部分は
 $25 - 9 = 16$

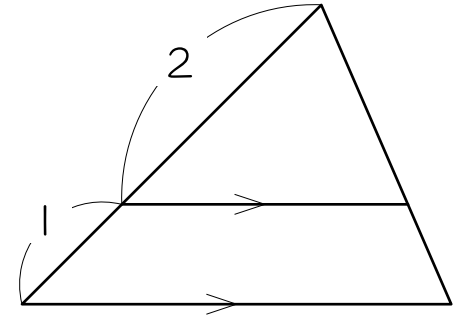
(1)



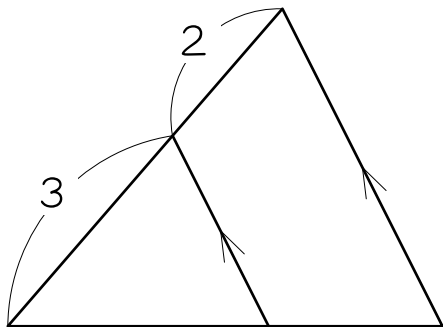
(2)



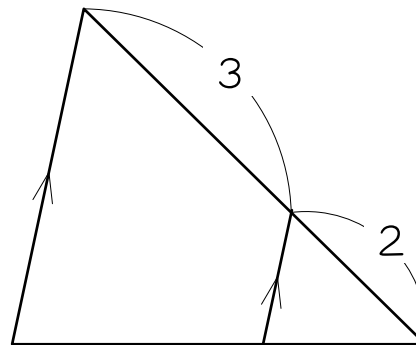
(3)



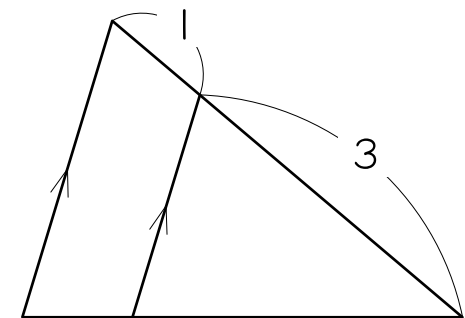
(4)



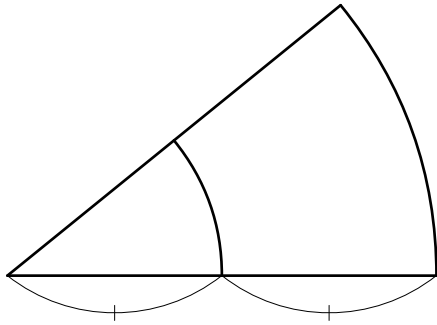
(5)



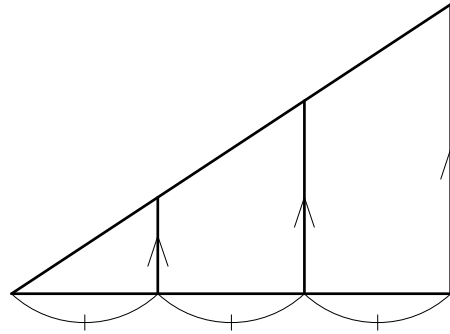
(6)



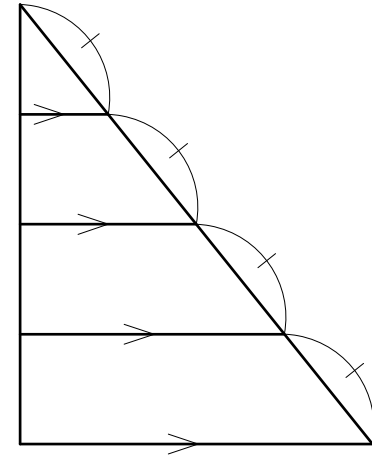
(7)



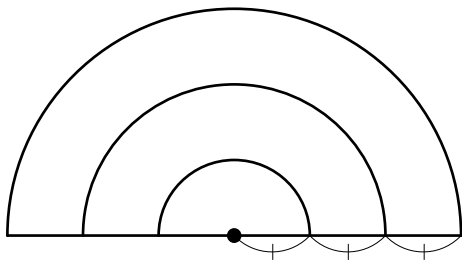
(8)



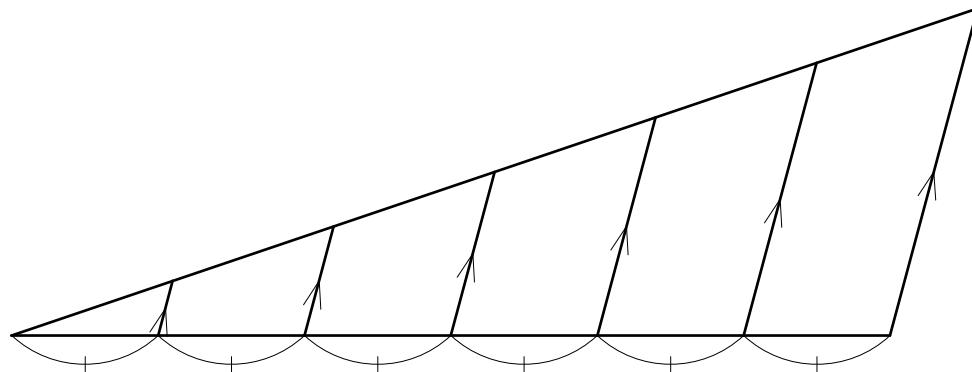
(9)



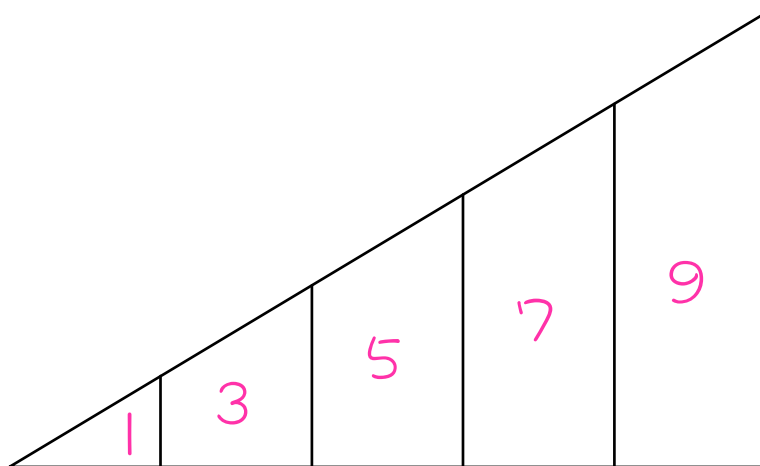
(10)



(11)



たけのこ型ピラミッド



ピラミッド相似が等間かくの場合、
各部分の面積の比は、

$$1 : 3 : 5 : 7 : 9 : \dots$$

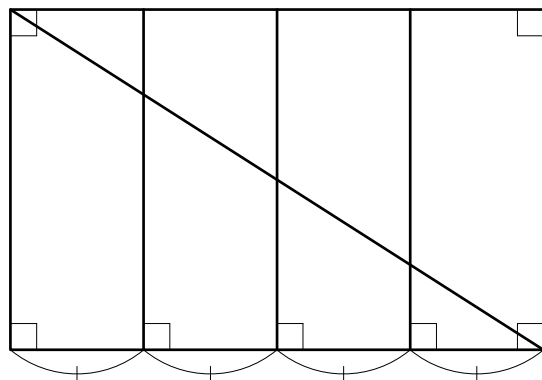
と、1から始まる奇数の数列に
なります♪

覚えておくと
便利♪

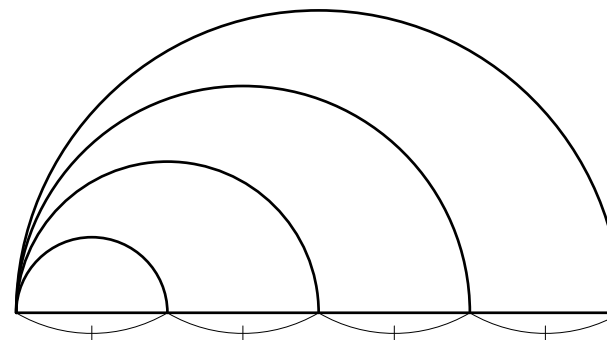
2

各部分の面積比をかきこみなさい。

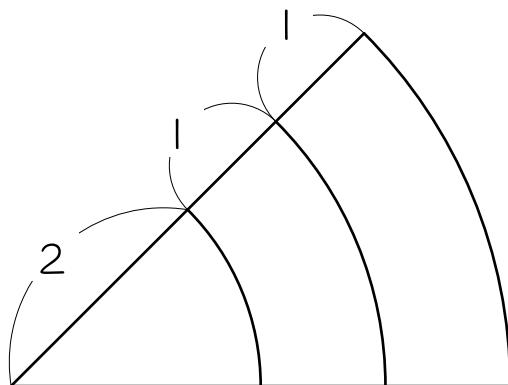
(1)



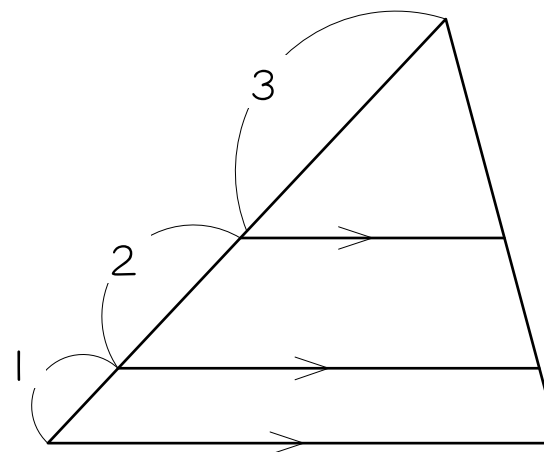
(2)



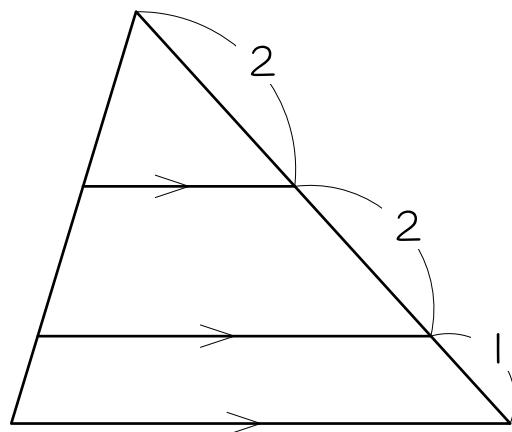
(3)



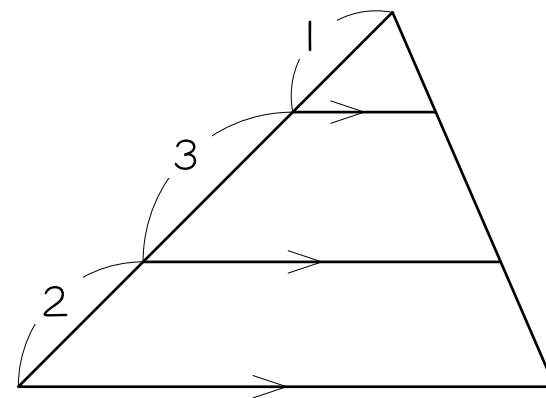
(4)



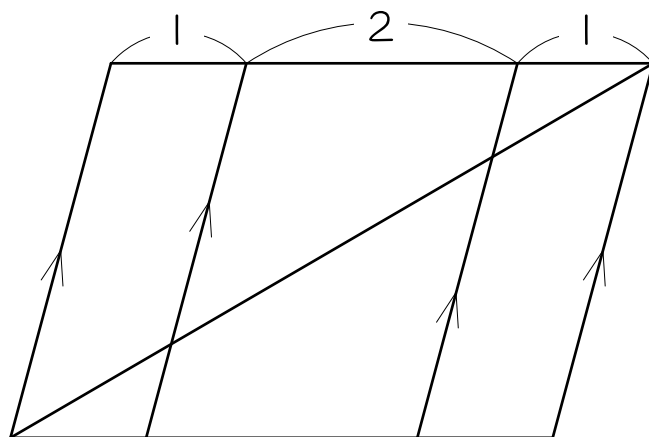
(5)



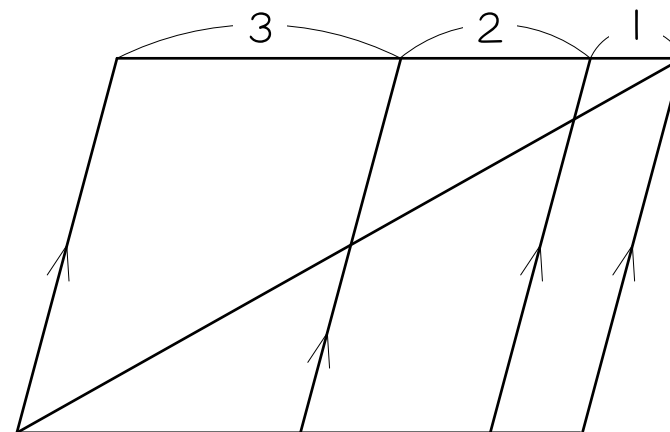
(6)



(7) 平行四辺形



(8) 平行四辺形

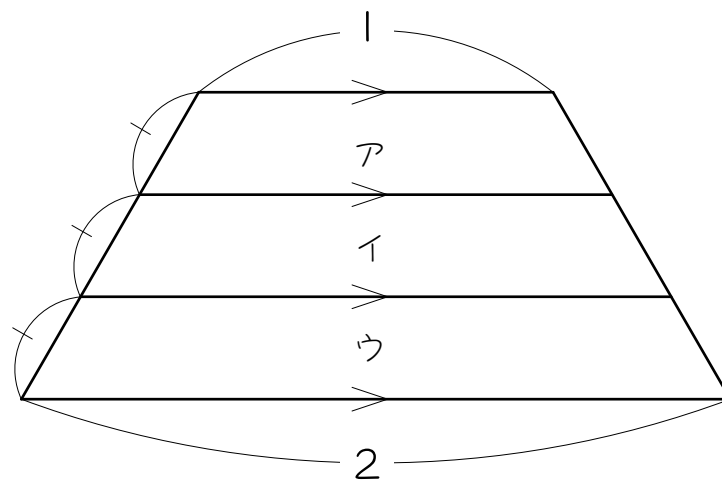
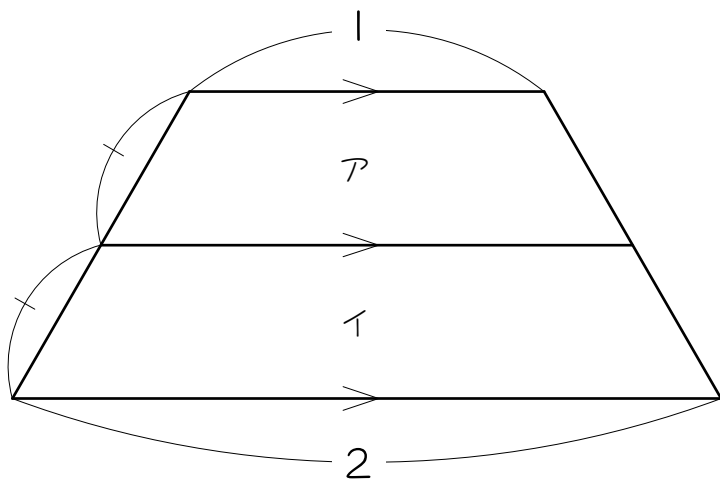


3

次の面積比を求めなさい。補助線を引いて、ピラミッド相似にして考えなさい。

(1) ア : イ

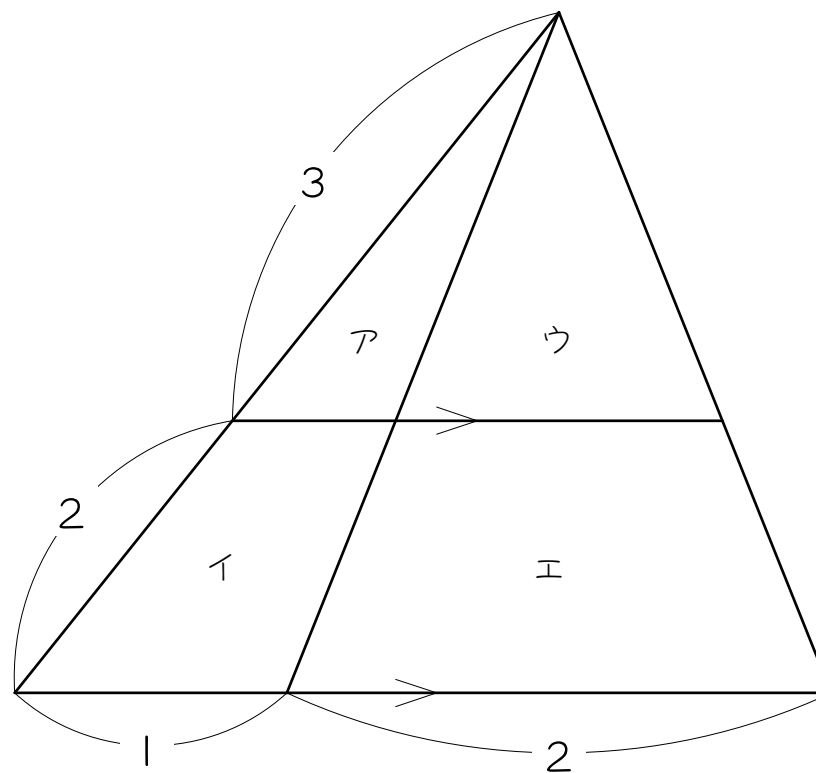
(2) ア : イ : ウ



4

次の面積比を求めなさい。

- (1) ア : イ
- (2) ウ : エ
- (3) (ア + イ) : (ウ + エ)
- (4) ア : イ : ウ : エ

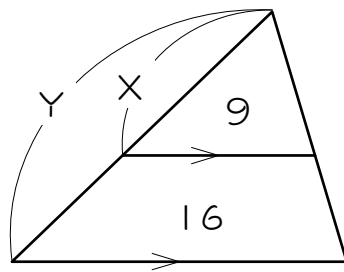


ステップ2 面積比 → 相似比

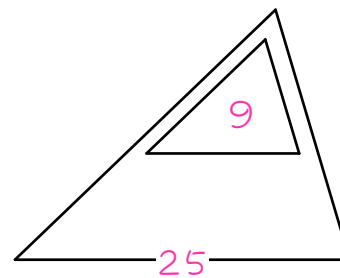
5

三角形が図のような面積比で2つの部分に分かれているとき、 $X:Y$ を求めなさい。

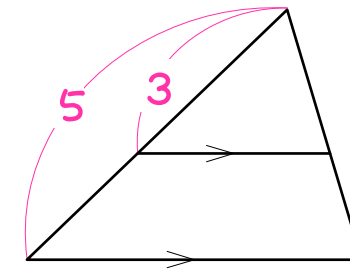
例)



大小2つの三角形は相似

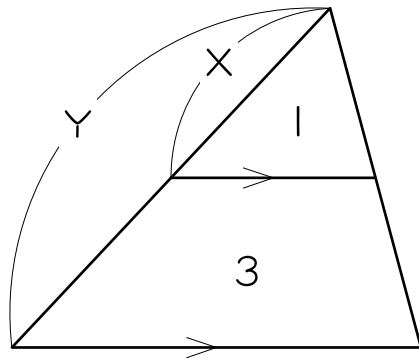


$$\begin{aligned}
 9 + 16 &= 25 \\
 \text{面積比は } 9 : 25 \\
 &= 3 \times 3 : 5 \times 5 \\
 \text{相似比は } 3 : 5
 \end{aligned}$$

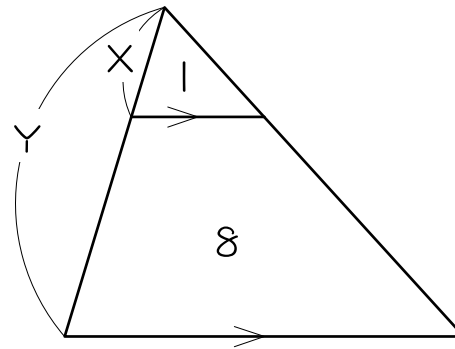


$$\begin{aligned}
 \text{よって、} \\
 X : Y &= 3 : 5
 \end{aligned}$$

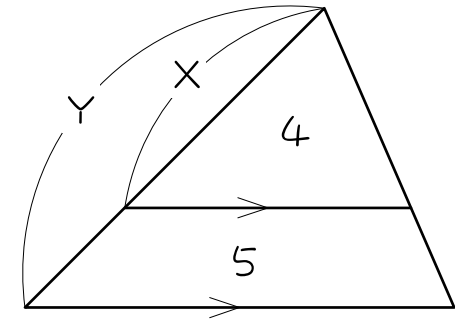
(1)



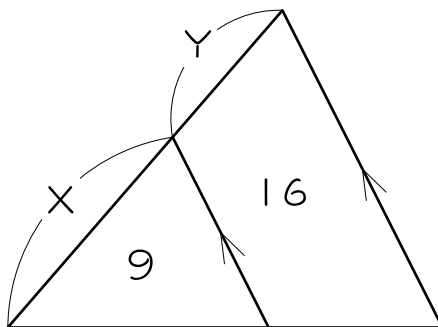
(2)



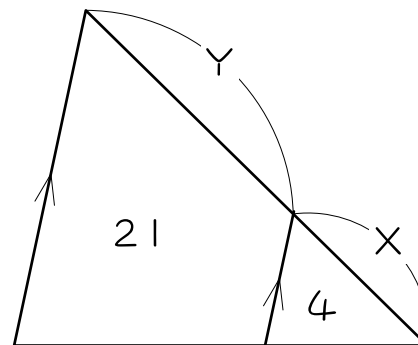
(3)



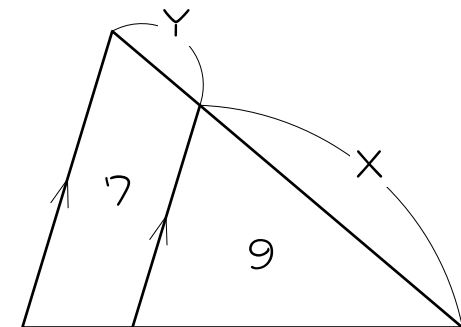
(4)



(5)



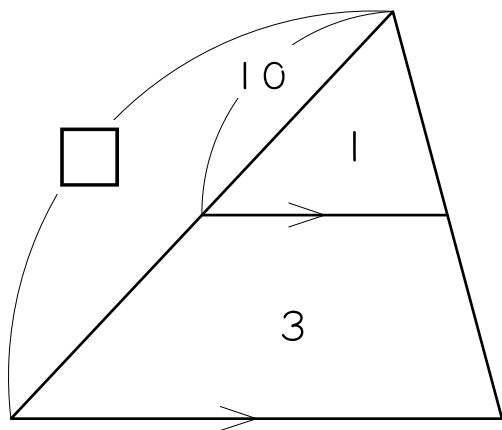
(6)



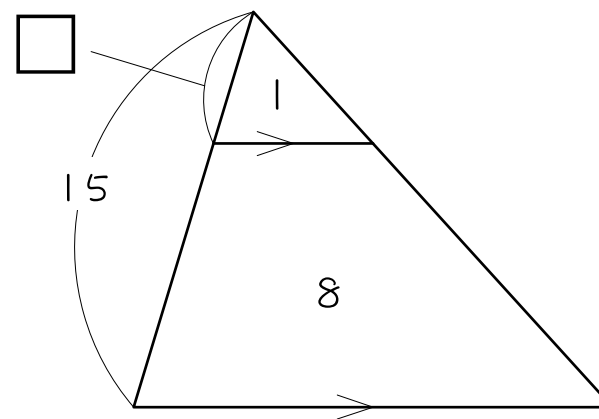
6

三角形が図のような面積比で2つの部分に分かれているとき、□を求めなさい。

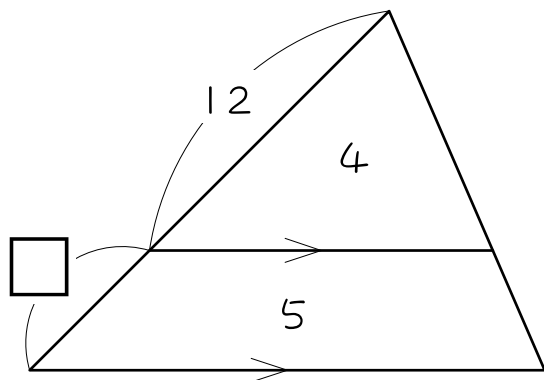
(1)



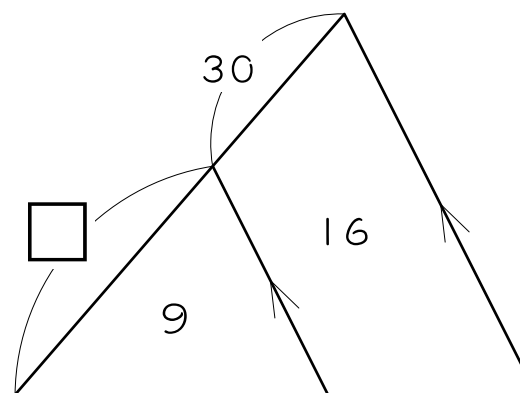
(2)



(3)



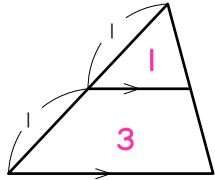
(4)



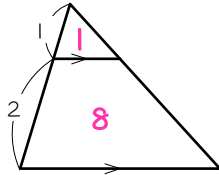
■ 解答 ■

1

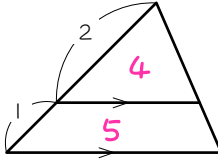
(1)



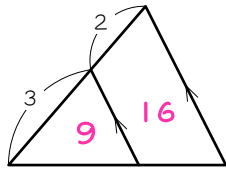
(2)



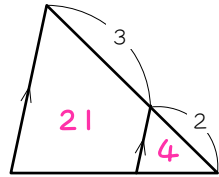
(3)



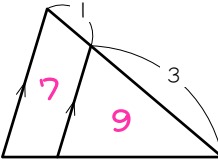
(4)



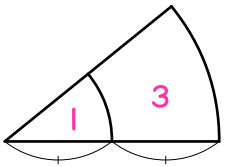
(5)



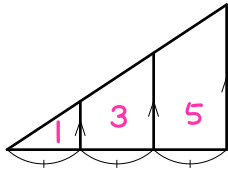
(6)



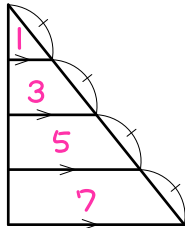
(7)



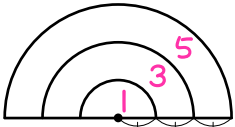
(8)



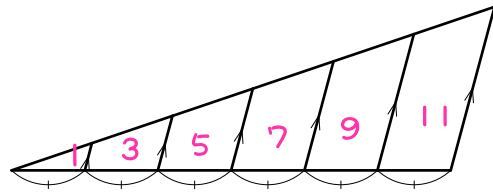
(9)



(10)

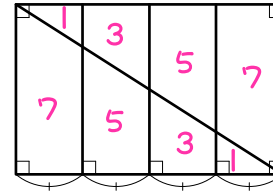


(11)

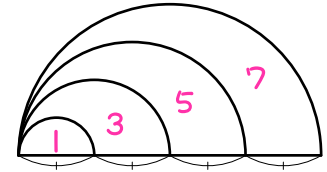


2

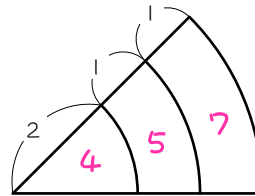
(1)



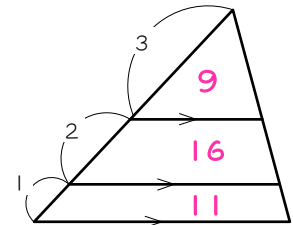
(2)



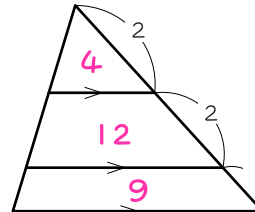
(3)



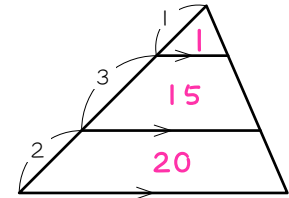
(4)



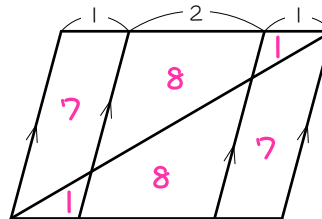
(5)



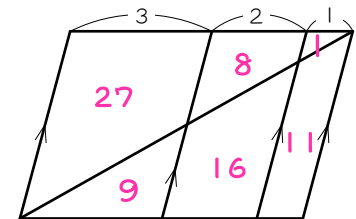
(6)



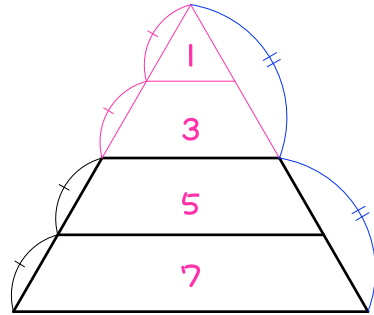
(7)



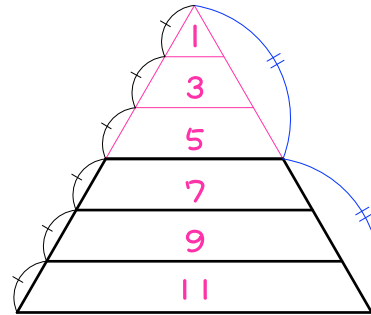
(8)



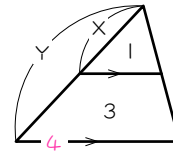
3 (1) 5 : 7



(2) 7 : 9 : 11

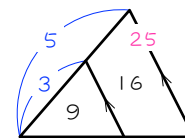


4 (1) 1 : 2



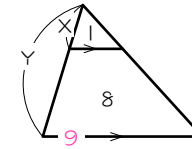
面 1:4 → 相 1:2

(4) 3 : 2



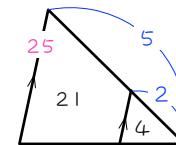
面 9:25 → 相 3:5

(2) 1 : 3



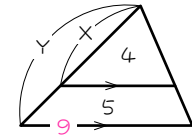
面 1:9 → 相 1:3

(5) 2 : 3



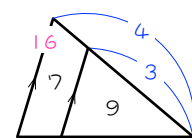
面 4:25 → 相 2:5

(3) 2 : 3



面 4:9 → 相 2:3

(6) 3 : 1



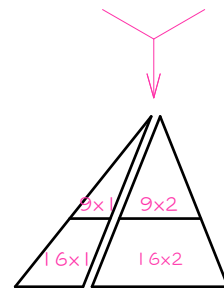
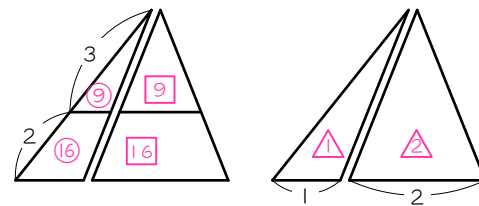
面 9:16 → 相 3:4

4 (1) 9 : 16

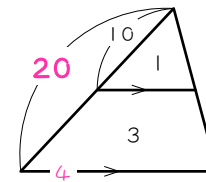
(2) 9 : 16

(3) 1 : 2

(4) 9 : 16 : 18 : 32

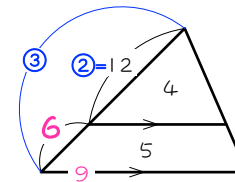


(5)



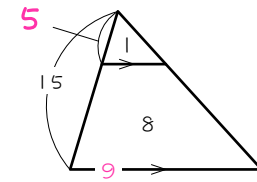
面 1:4 → 相 1:2

(7)



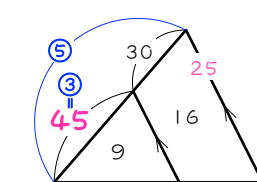
面 4:9 → 相 2:3

(6)



面 1:9 → 相 1:3

(8)



面 9:25 → 相 3:5