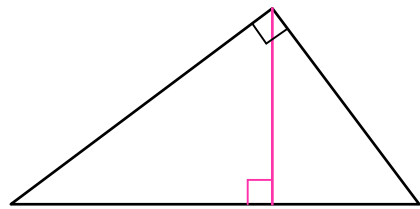
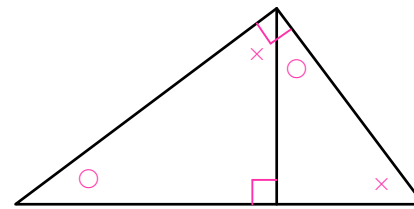


直角三角形型相似

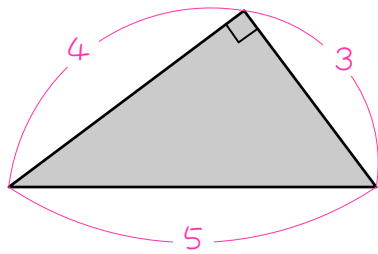


大きい直角三角形を
図のように分けると、

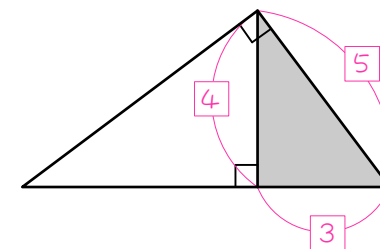
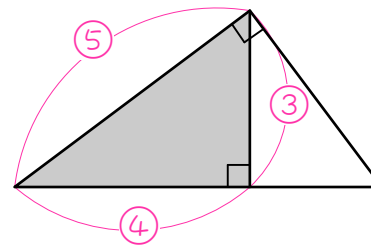


大中小3つの直角三角形は
角度が全て等しくなります

↓
相似



大きい直角三角形の3辺
の比が $3 : 4 : 5$ なら



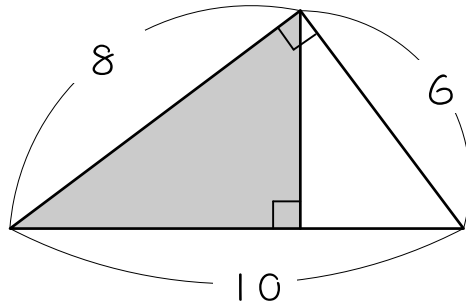
中・小2つの直角三角形の3辺
の比も、短い方から $3 : 4 : 5$

ステップ1 直角三角形型相似 - りんぺんひ 隣辺比をかきこむ

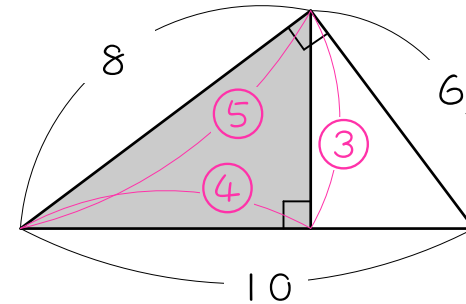
1

例にならって、色のついた直角三角形の隣辺比（となりどうしの辺の長さの比）をかきこみなさい。

例)

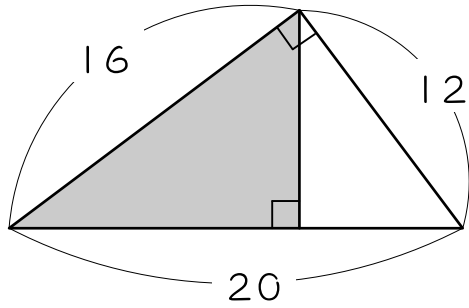


全体の直角三角形の隣辺比が
 $6:8:10 = 3:4:5$ だから

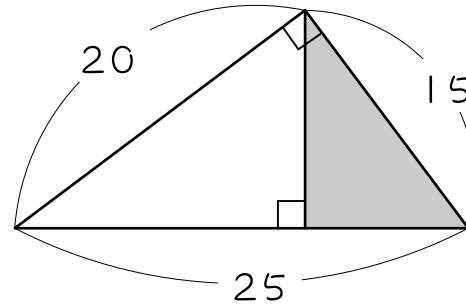


中の直角三角形の隣辺比も
 短い方から $3:4:5$

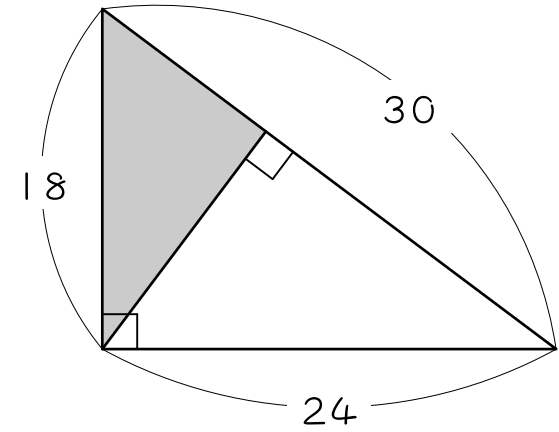
(1)



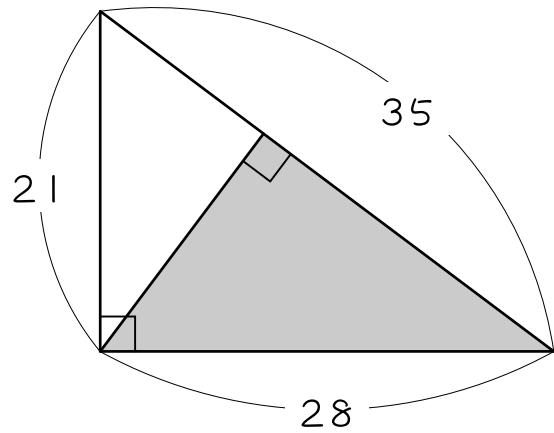
(2)



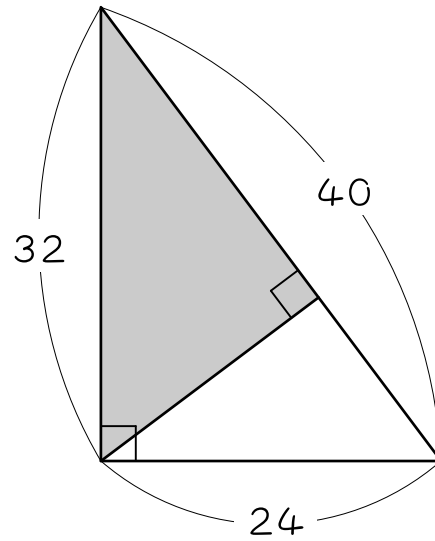
(3)



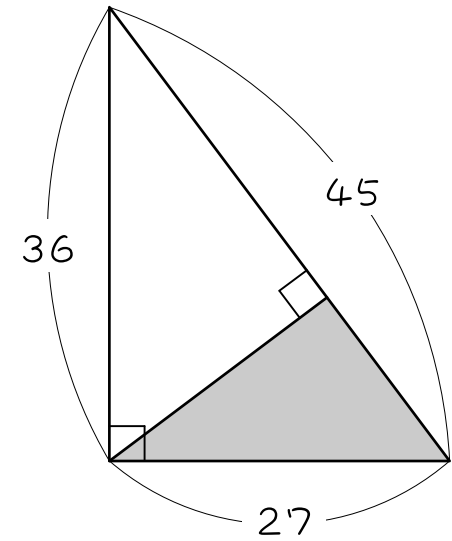
(4)



(5)



(6)

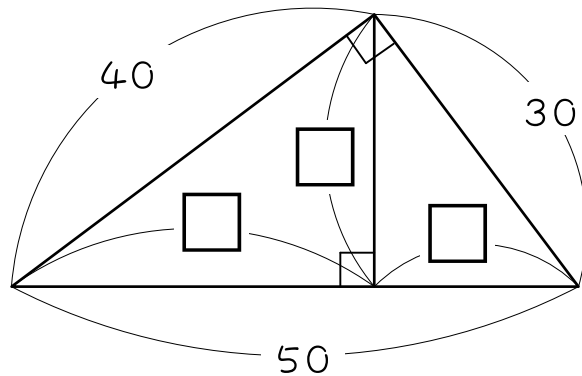


ステップ2 直角三角形型相似 - 長さを求める

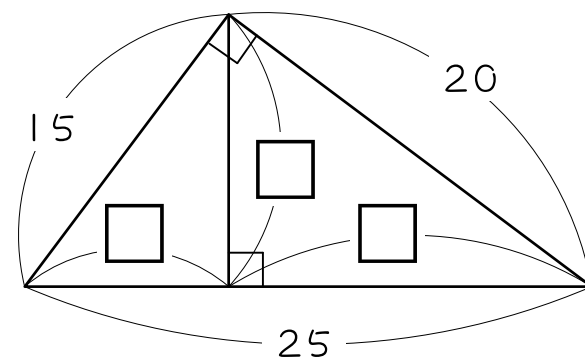
2

□にあてはまる数を求めなさい。

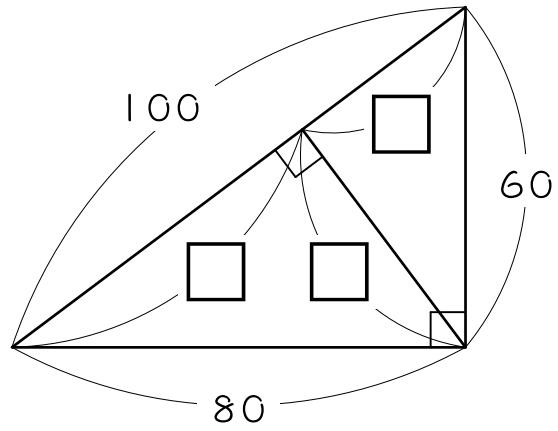
(1)



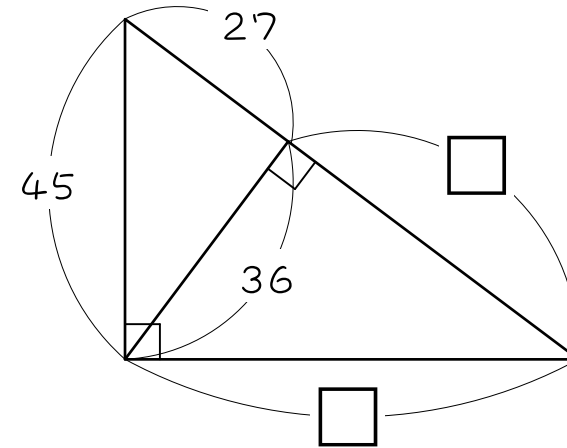
(2)



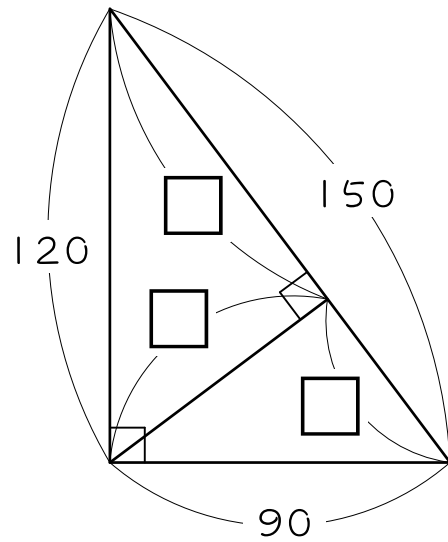
(3)



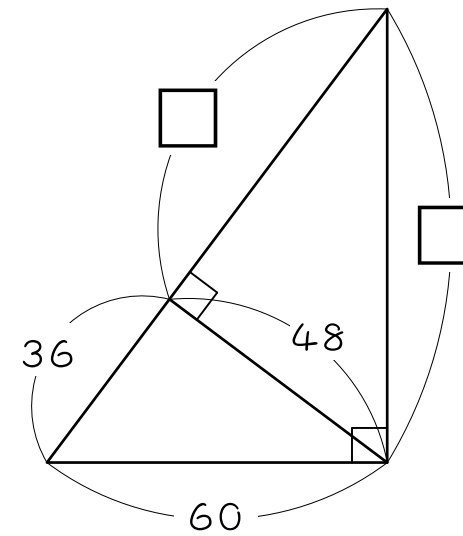
(4)



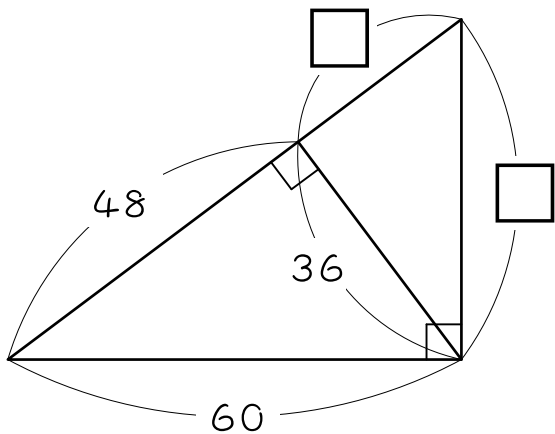
(5)



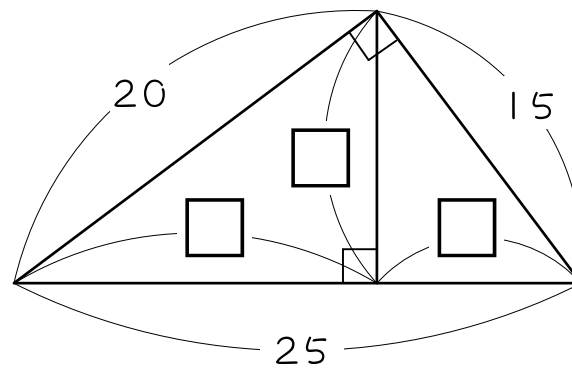
(6)



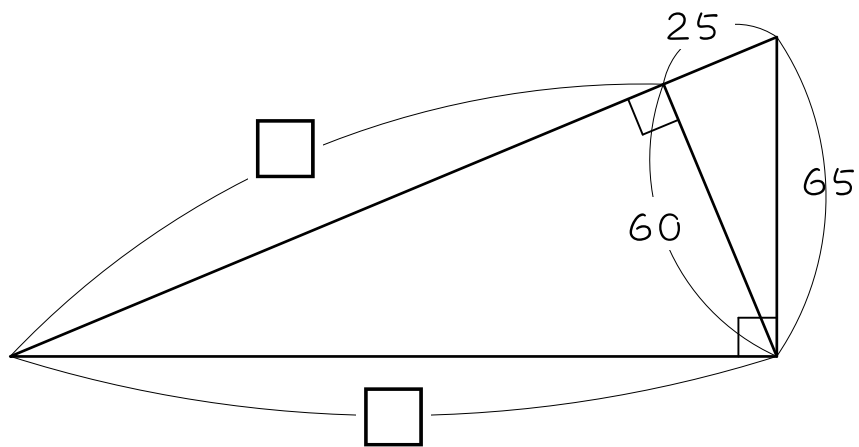
(7)



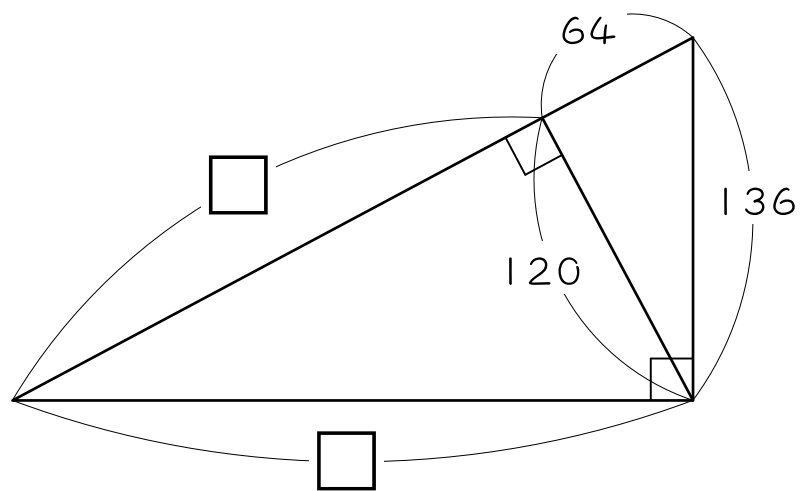
(8)



(9)

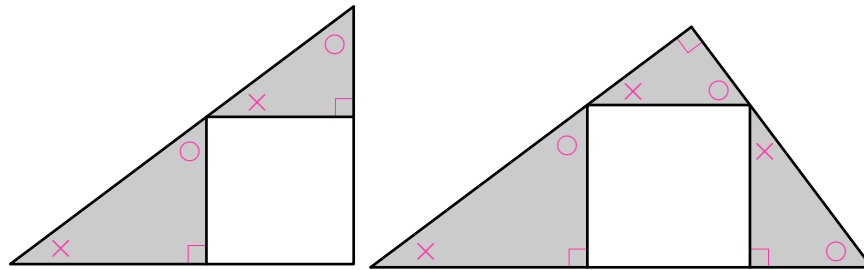


(10)

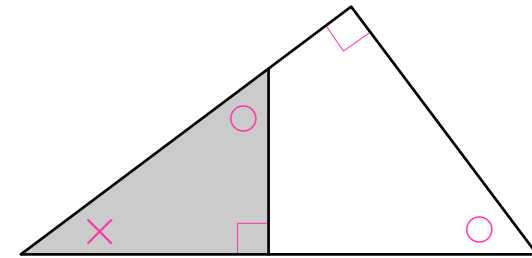


直角三角形型相似のいろいろ

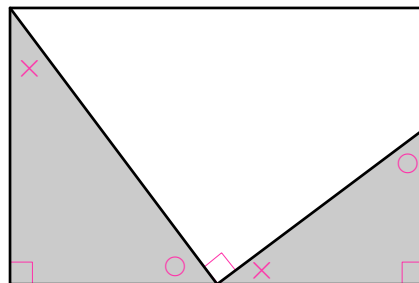
① 直角三角形と正方形



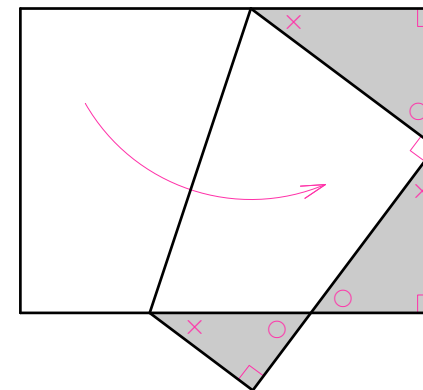
② 裏返し



③ 長方形と直角



④ 折り返し

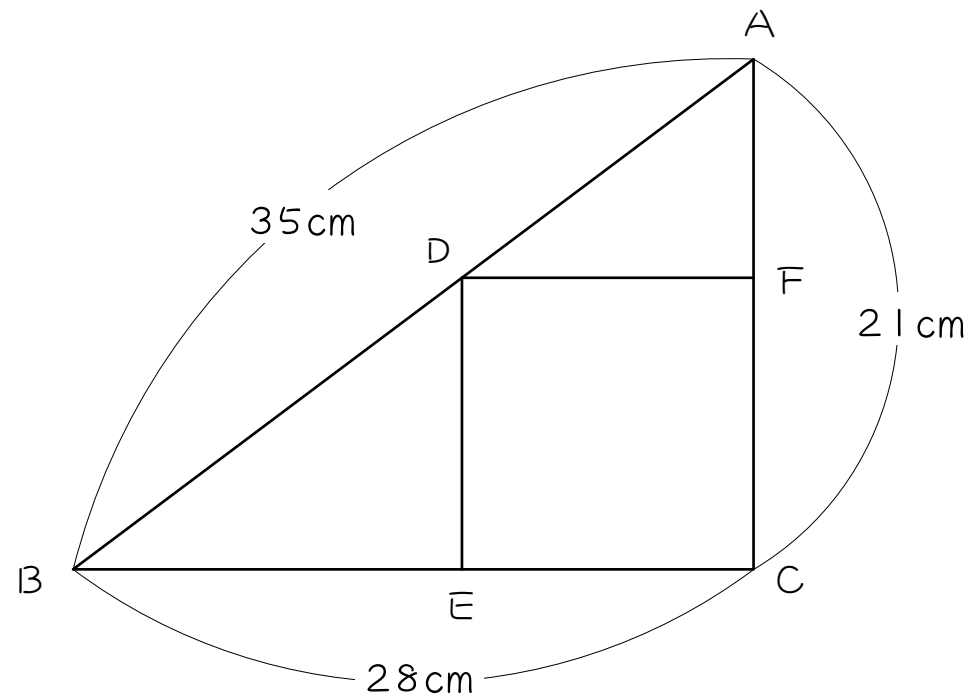


ステップ3 直角三角形と正方形

3

右の図のように、直角三角形の中に正方形がちょうど入っています。
このとき、次の問いに答えなさい。

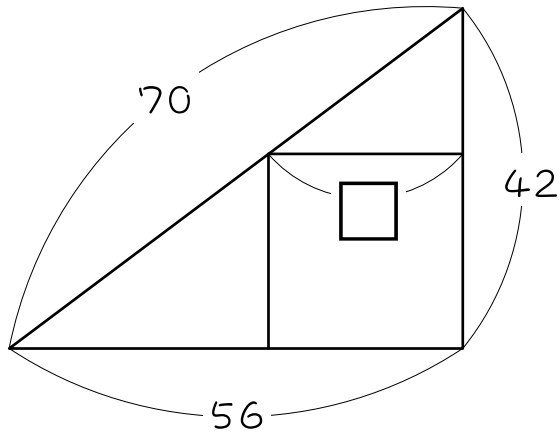
- (1) $AF : FD$ はいくらですか。
- (2) $FD : FC$ はいくらですか。
- (3) $AF : FD : FC$ はいくらですか。
- (4) 正方形の1辺は何cmですか。



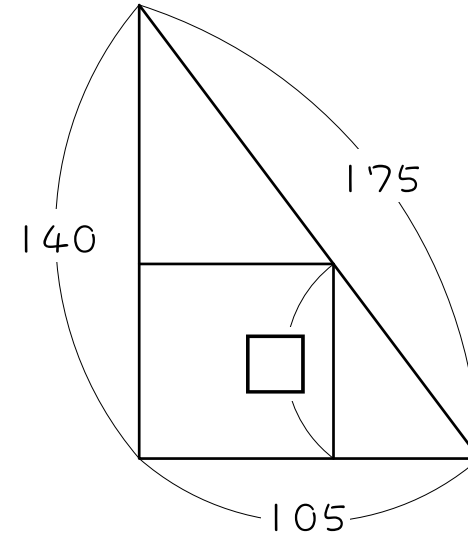
4

次の図は直角三角形と正方形を組み合わせたものです。
□にあてはまる数を求めなさい。

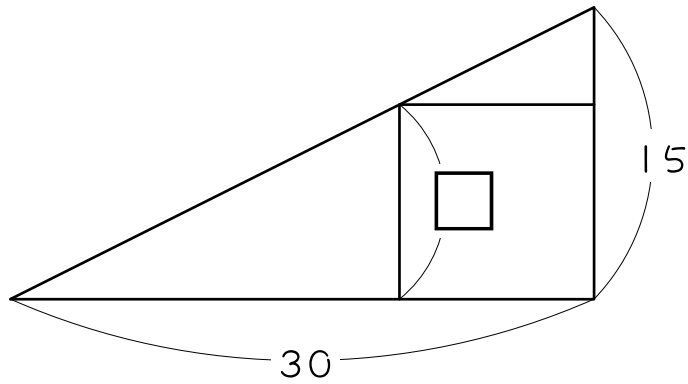
(1)



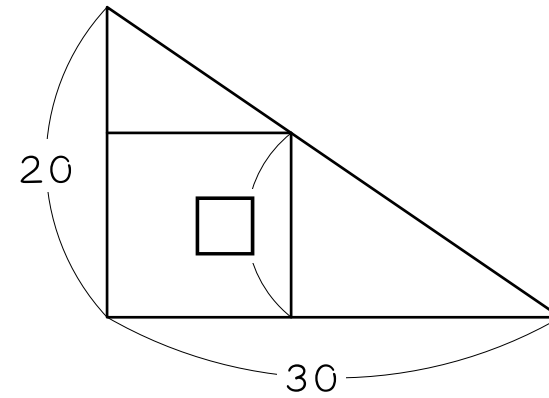
(2)



(3)



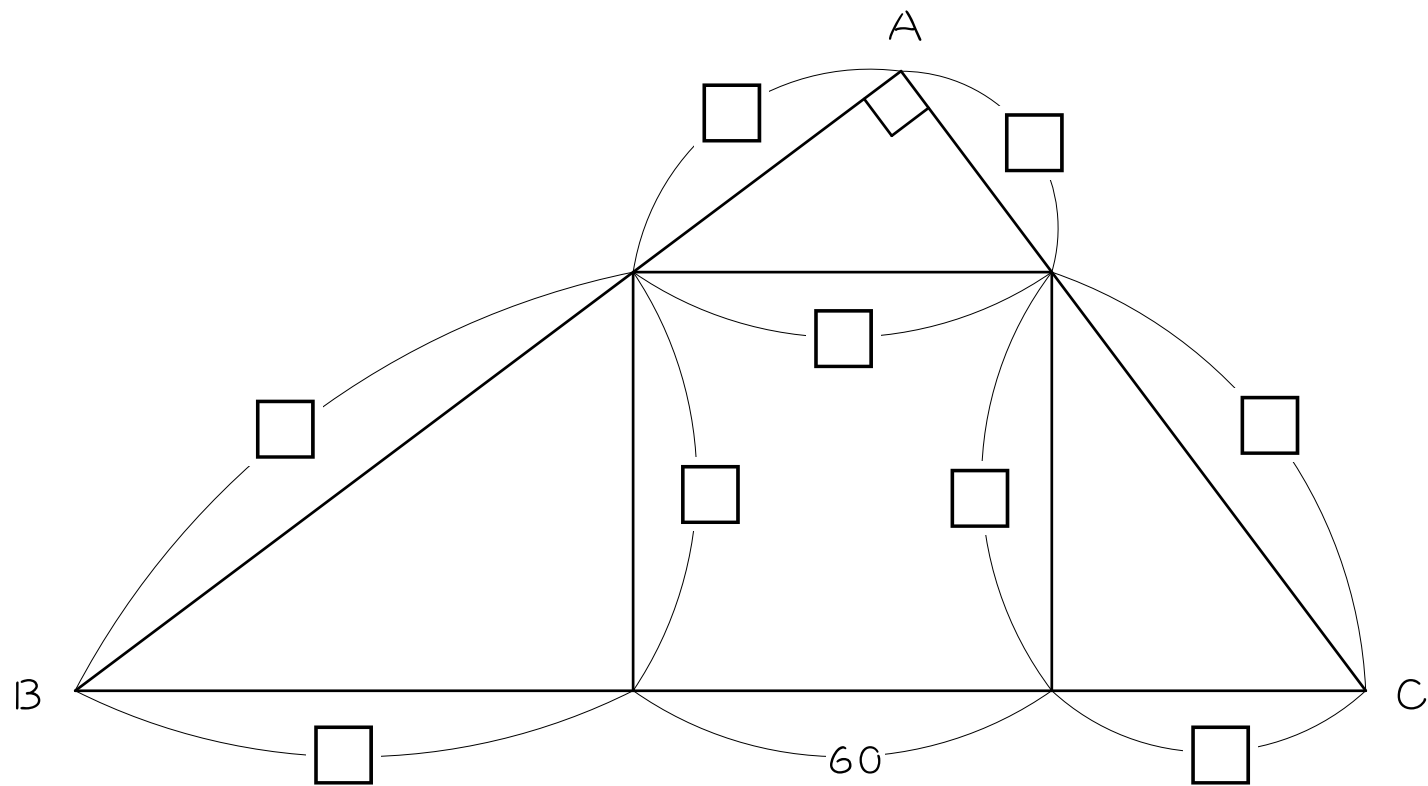
(4)



5

次の図は3辺の比が3 : 4 : 5の直角三角形と、正方形を組み合わせたものです。
このとき、次の問いに答えなさい。

- (1) 正方形の1辺が60のとき、□にあてはまる数を求めなさい。
- (2) $AC = 11.1\text{cm}$ のとき、正方形の1辺は何cmですか。

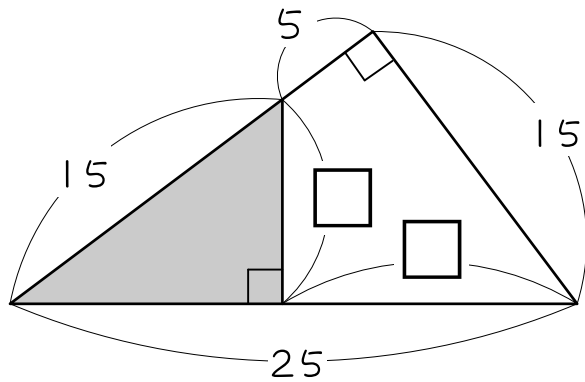


ステップ4 裏返し型相似

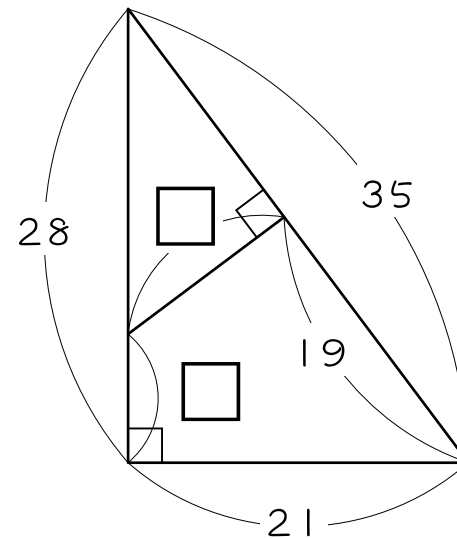
6

□にあてはまる数を求めなさい。

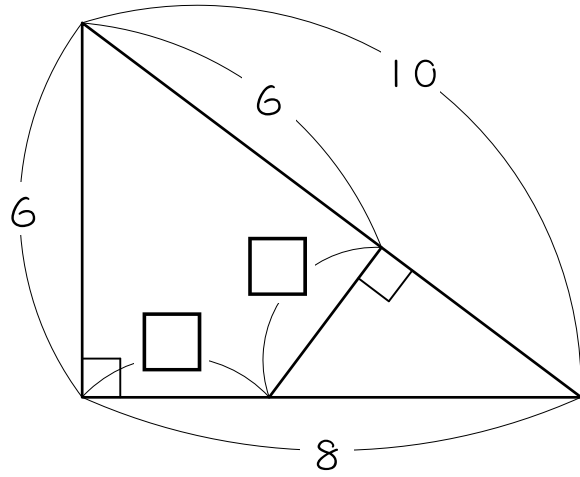
(1)



(2)

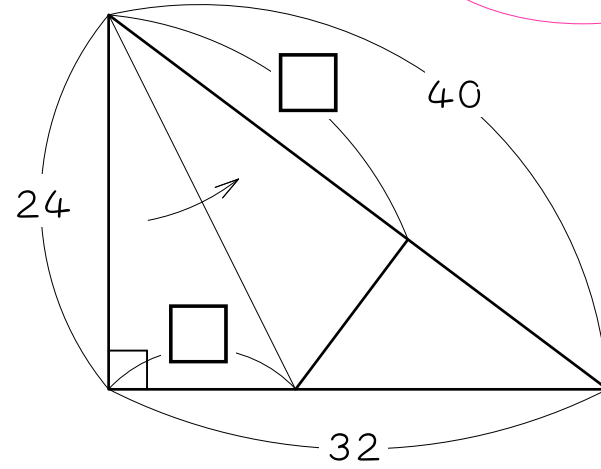


(3)

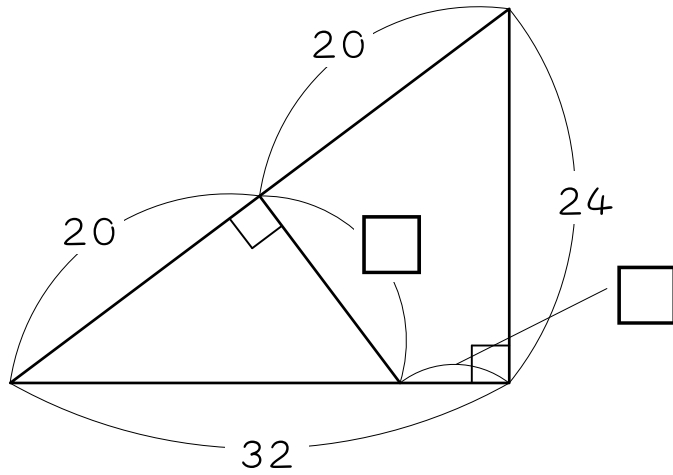


(4)[☆] 折り返し

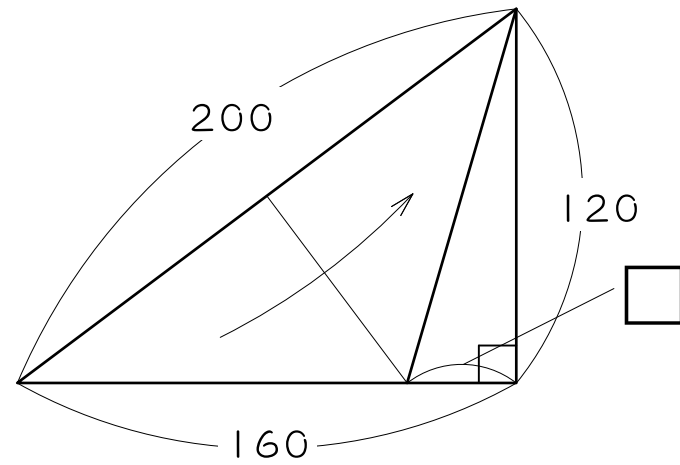
折り返すと重なるところは長さが同じ!



(5)



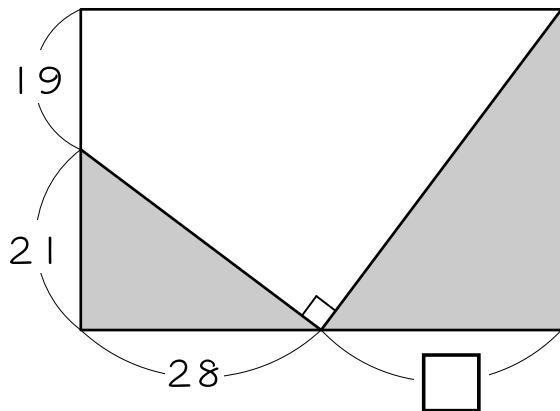
(6)[☆] 折り返し



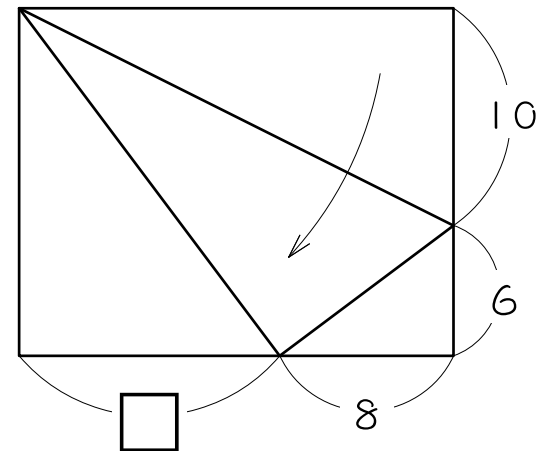
ステップ5 長方形と直角

7 次の長方形において、□にあてはまる数を求めなさい。

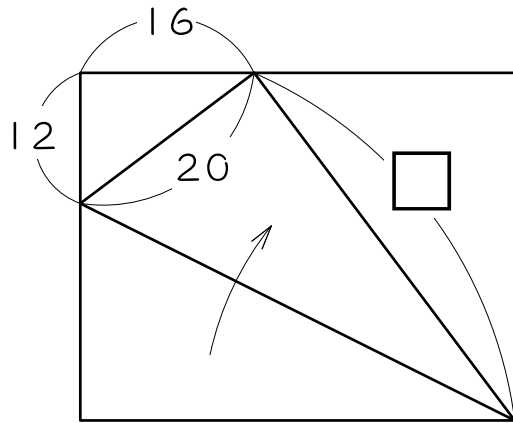
(1)



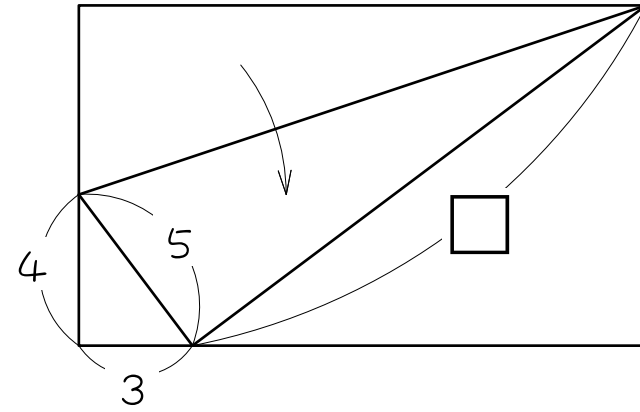
(2) 折り返し



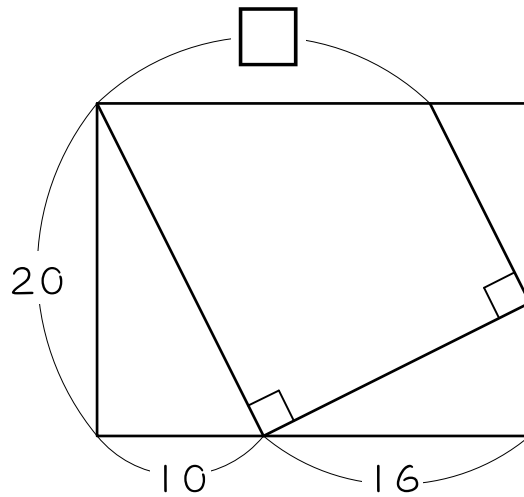
(3) 折り返し



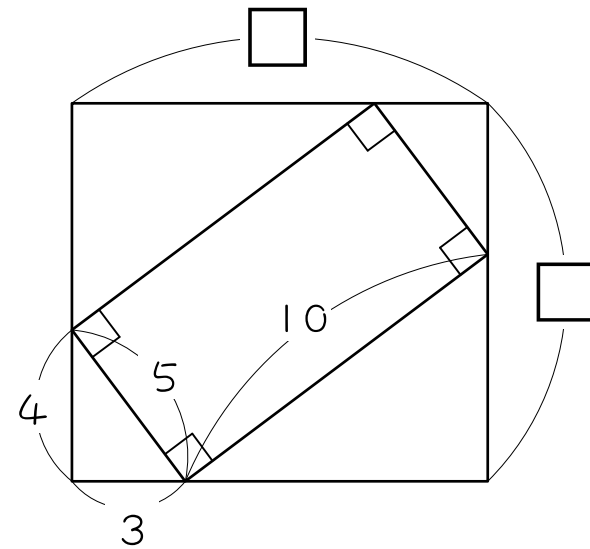
(4) 折り返し



(5)



(6)

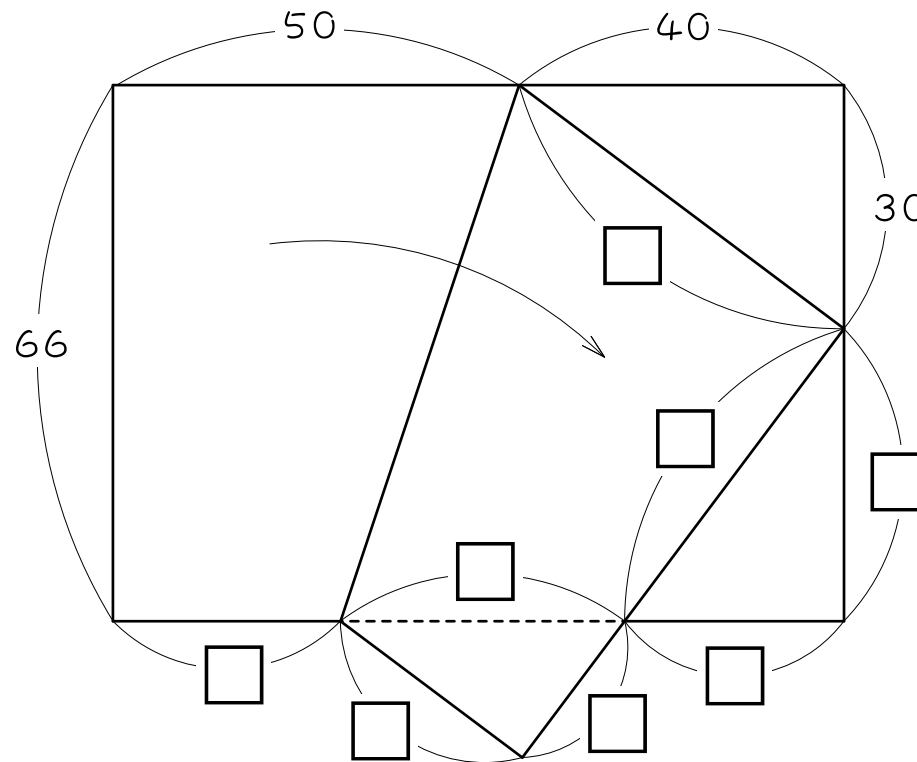


ステップ6 長方形の折り返し

8

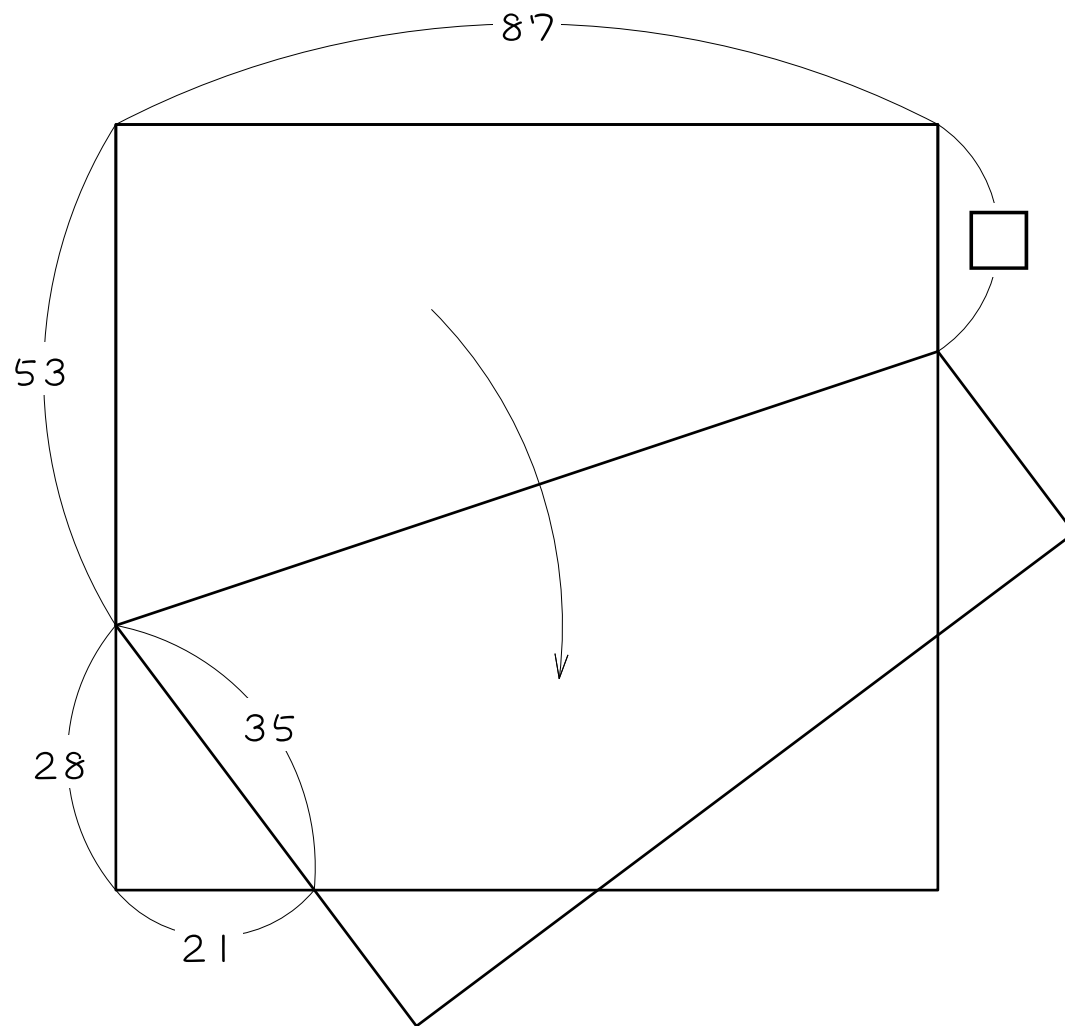
次の図は、長方形を折り返したものです。□にあてはまる数を求めなさい。

(1)



折り返すと重なるところは長さが同じ！

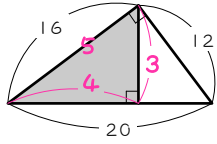
(2)



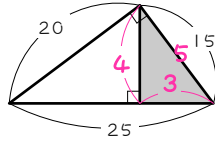
■ 解答 ■

1

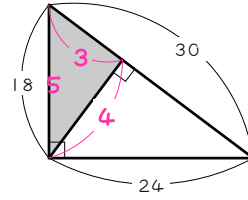
(1)



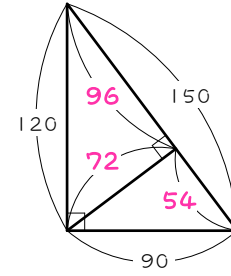
(2)



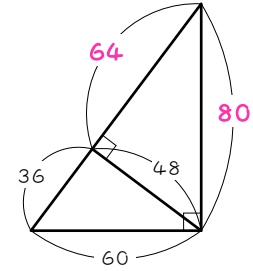
(3)



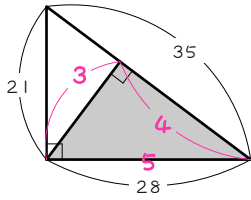
(5)



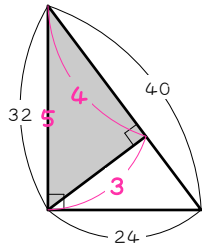
(6)



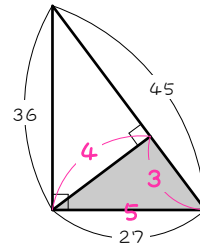
(4)



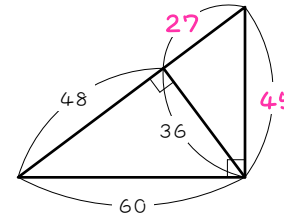
(5)



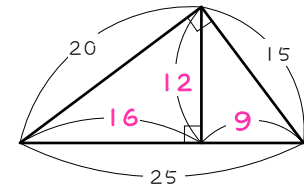
(6)



(7)

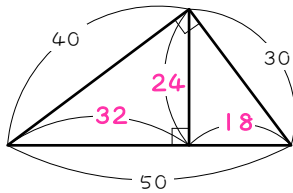


(8)

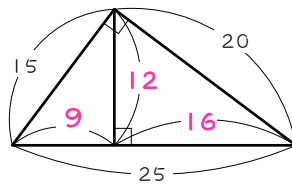


2

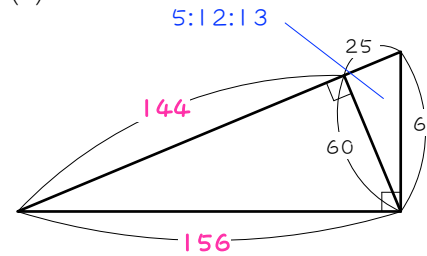
(1)



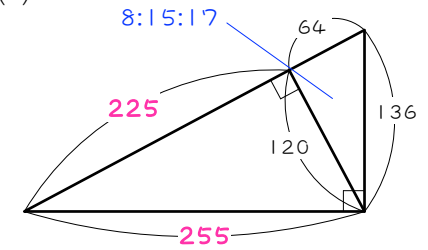
(2)



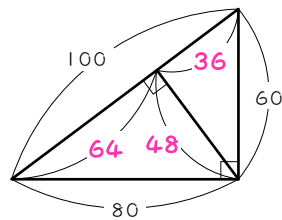
(9)



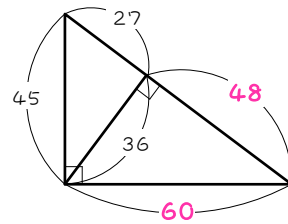
(10)



(3)



(4)



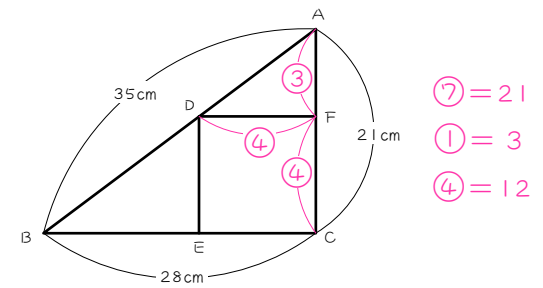
3

(1) 3 : 4

(2) 1 : 1

(3) 3 : 4 : 4

(4) 12cm

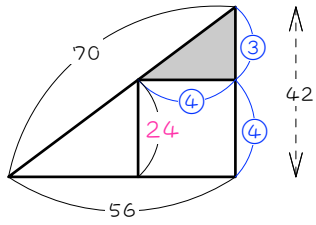


⑦ = 21

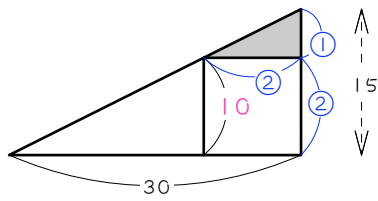
① = 3

④ = 12

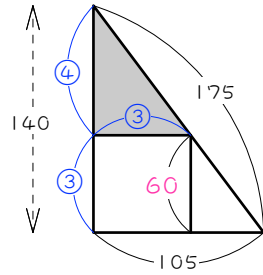
4 (1)



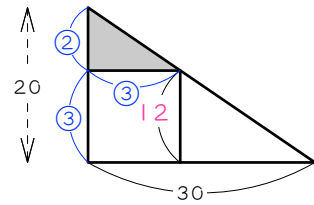
(3)



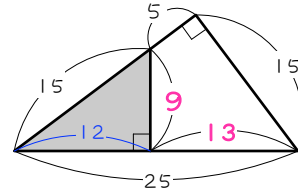
(2)



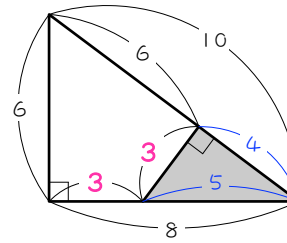
(4)



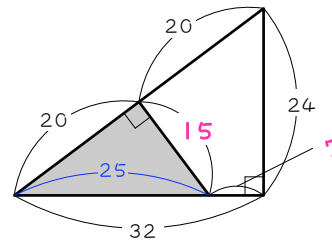
6 (1)



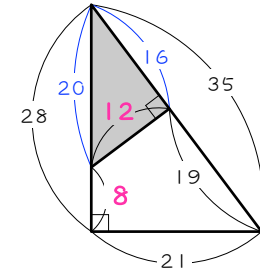
(3)



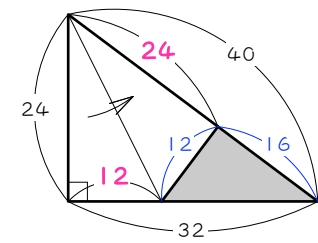
(5)



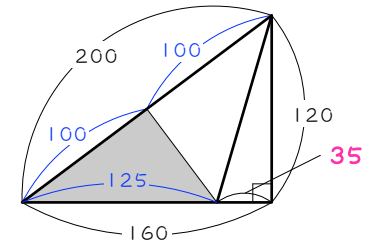
(2)



(4)



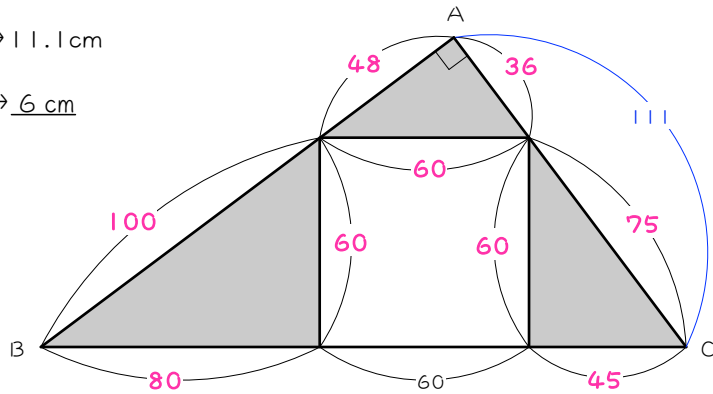
(6)



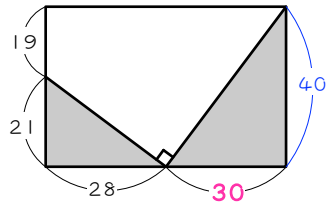
5 (1) 右図

(2) IIII → IIII cm

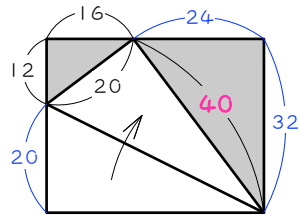
60 → 6 cm



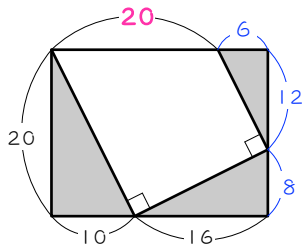
7 (1)



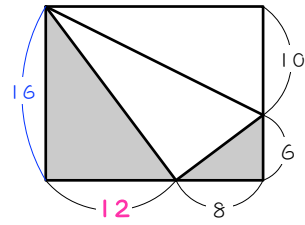
(3)



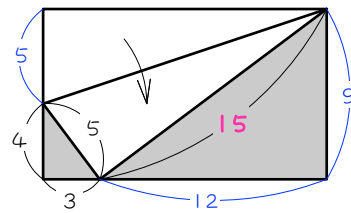
(5)



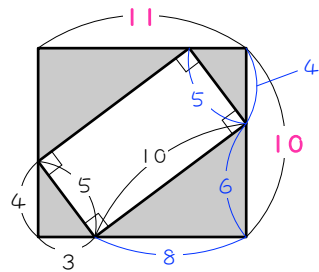
(2)



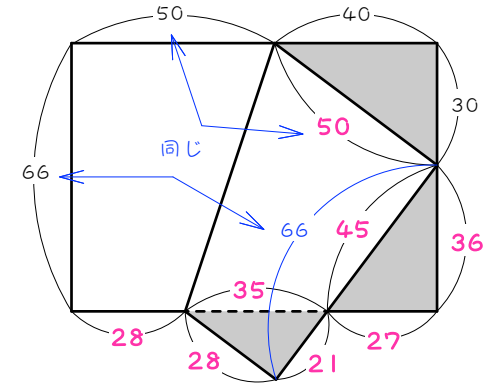
(4)



(6)



8 (1)



(5)

