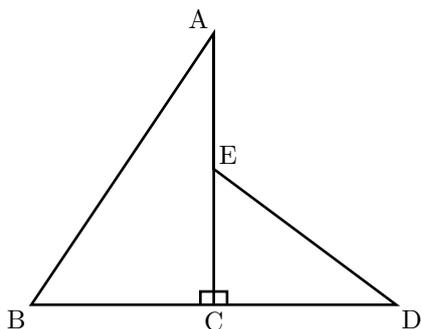


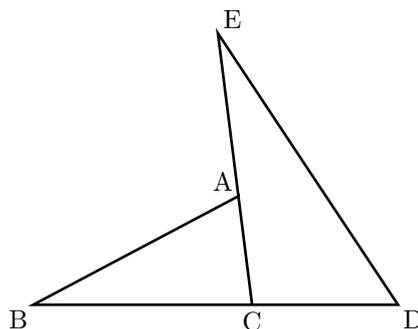
# 反射テスト 面積比 三角形の底辺と高さと面積の比 01

1. 下図の三角形の内部に面積比を書き込め。(S級1分, A級1分20秒, B級2分30秒, C級4分)

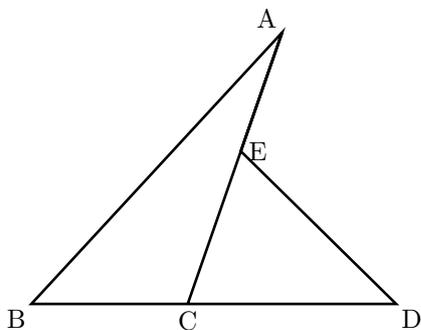
(1)  $BC = CD$  かつ  $AC : EC = 2 : 1$



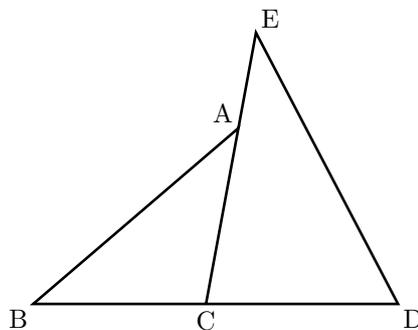
(2)  $BC : CD = 3 : 2$  かつ  $AC : EC = 2 : 5$



(3)  $BC : CD = 3 : 4$  かつ  $AE : EC = 7 : 9$

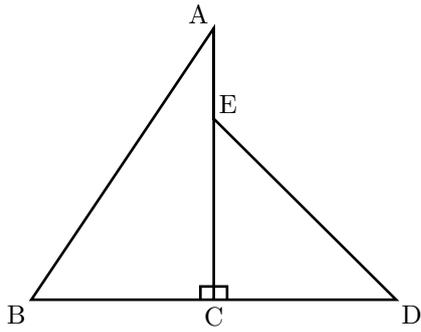


(4)  $BC : CD = 9 : 10$  かつ  $EA : AC = 19 : 35$

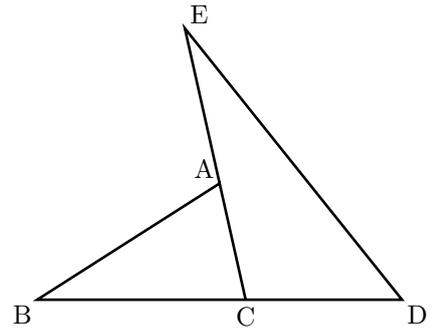


2. 下図の三角形の内部に面積比を書き込め。(S級1分, A級1分20秒, B級2分30秒, C級4分)

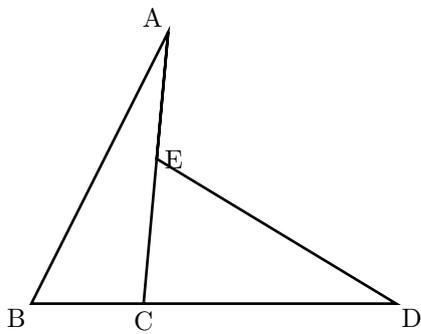
(1)  $BC = CD$  かつ  $AC : EC = 3 : 2$



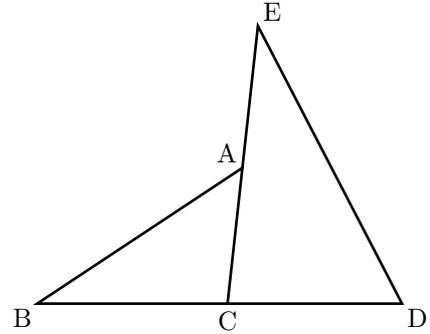
(2)  $BC : CD = 4 : 3$  かつ  $AC : EC = 3 : 7$



(3)  $BC : CD = 4 : 9$  かつ  $AE : EC = 7 : 8$



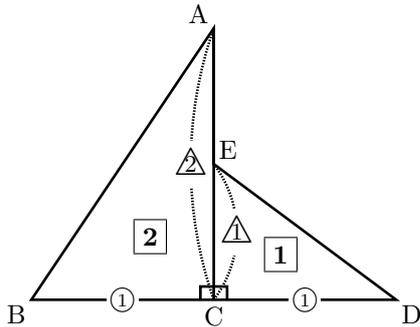
(4)  $BC : CD = 12 : 11$  かつ  $EA : AC = 23 : 22$



# 反射テスト 面積比 三角形の底辺と高さと面積の比 01 解答解説

1. 下図の三角形の内部に面積比を書き込め。(S級1分, A級1分20秒, B級2分30秒, C級4分)

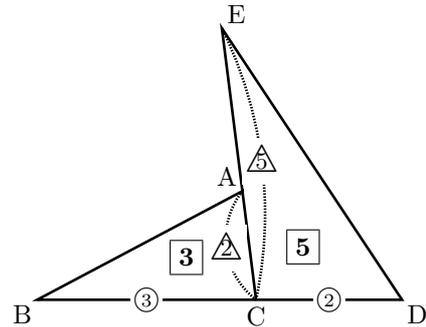
(1)  $BC = CD$  かつ  $AC : EC = 2 : 1$



$$\begin{aligned} \triangle ABC & : \triangle ECD \\ = (\textcircled{1} \times \triangle \div 2) & : (\textcircled{1} \times \triangle \div 2) \\ = \boxed{2} & : \boxed{1} \end{aligned}$$

☆両方で  $\div 2$  をするので、無視してもよい。  
ただし四角形と比べるとときには注意が必要である。

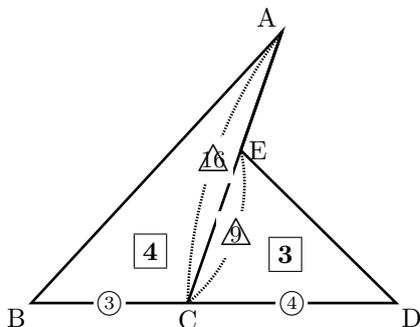
(2)  $BC : CD = 3 : 2$  かつ  $AC : EC = 2 : 5$



$$\begin{aligned} \triangle ABC & : \triangle ECD \\ = (\textcircled{3} \times \triangle \div 2) & : (\textcircled{2} \times \triangle \div 2) \\ = \boxed{3} & : \boxed{5} \end{aligned}$$

☆Cのところが直角でなくても同様にできる。

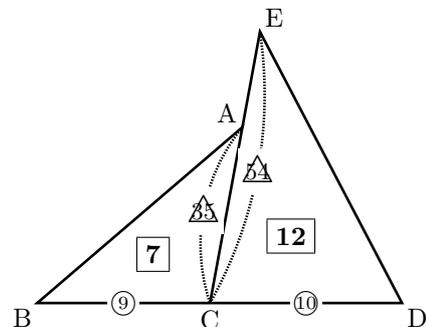
(3)  $BC : CD = 3 : 4$  かつ  $AE : EC = 7 : 9$



$$AC = \triangle + \triangle = \triangle$$

$$\begin{aligned} \triangle ABC & : \triangle ECD \\ = (\textcircled{3} \times \triangle \div 2) & : (\textcircled{4} \times \triangle \div 2) \\ = \boxed{4} & : \boxed{3} \end{aligned}$$

(4)  $BC : CD = 9 : 10$  かつ  $EA : AC = 19 : 35$

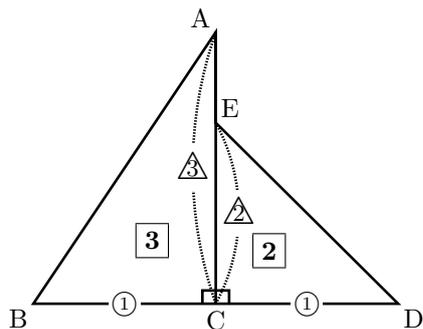


$$EC = \triangle + \triangle = \triangle$$

$$\begin{aligned} \triangle ABC & : \triangle ECD \\ = (\textcircled{9} \times \triangle \div 2) & : (\textcircled{19} \times \triangle \div 2) \\ = (9^1 \times 35^7) & : (10^2 \times 54^6) \\ = \boxed{7} & : \boxed{12} \end{aligned}$$

2. 下図の三角形の内部に面積比を書き込め。(S級1分, A級1分20秒, B級2分30秒, C級4分)

(1)  $BC = CD$  かつ  $AC : EC = 3 : 2$



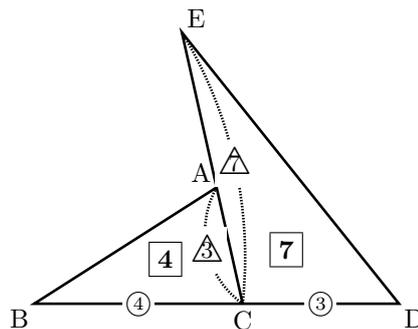
$$\triangle ABC : \triangle ECD$$

$$= (\textcircled{1} \times \textcircled{3} \div 2) : (\textcircled{1} \times \textcircled{2} \div 2)$$

$$= \boxed{3} : \boxed{2}$$

☆両方で  $\div 2$  をするので、無視してもよい。  
ただし四角形と比べるときには注意が必要である。

(2)  $BC : CD = 4 : 3$  かつ  $AC : EC = 3 : 7$



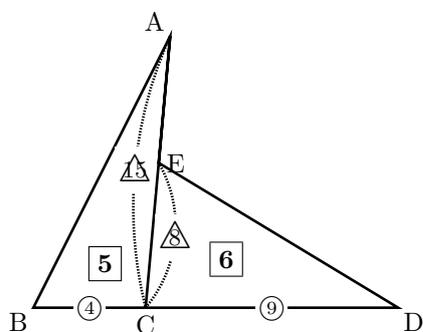
$$\triangle ABC : \triangle ECD$$

$$= (\textcircled{4} \times \textcircled{3} \div 2) : (\textcircled{3} \times \textcircled{7} \div 2)$$

$$= \boxed{4} : \boxed{7}$$

☆Cのところが直角でなくても同様にできる。

(3)  $BC : CD = 4 : 9$  かつ  $AE : EC = 7 : 8$



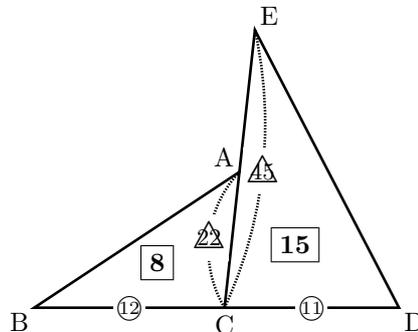
$$AC = \textcircled{7} + \textcircled{8} = \textcircled{15}$$

$$\triangle ABC : \triangle ECD$$

$$= (\textcircled{4} \times \textcircled{15} \div 2) : (\textcircled{9} \times \textcircled{8} \div 2)$$

$$= \boxed{5} : \boxed{6}$$

(4)  $BC : CD = 12 : 11$  かつ  $EA : AC = 23 : 22$



$$EC = \textcircled{23} + \textcircled{22} = \textcircled{45}$$

$$\triangle ABC : \triangle ECD$$

$$= (\textcircled{12} \times \textcircled{45} \div 2) : (\textcircled{11} \times \textcircled{45} \div 2)$$

$$= (12^4 \times 22_2) : (11_1 \times 45^{15})$$

$$= \boxed{8} : \boxed{15}$$