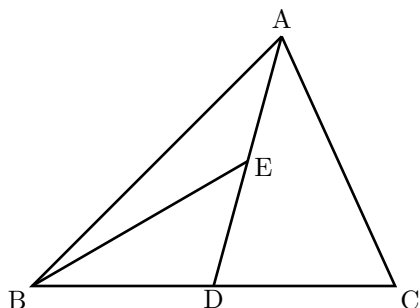


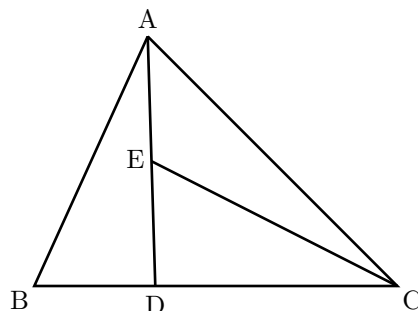
反射テスト 面積比 三角形 in 三角形 01

1. 下図の三角形の内部に面積比を書き込め。(S級 50秒, A級 1分15秒, B級 2分, C級 3分)

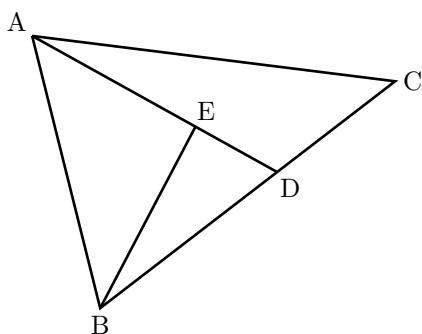
(1) $BD : DC = 1 : 1$, $AE : ED = 1 : 1$



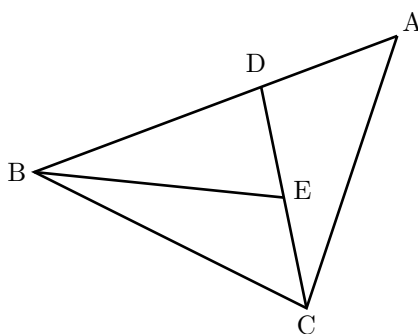
(2) $BD : DC = 1 : 2$, $AE : ED = 1 : 1$



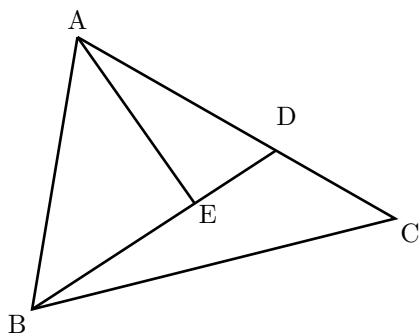
(3) $BD : DC = 3 : 2$, $AE : ED = 2 : 1$



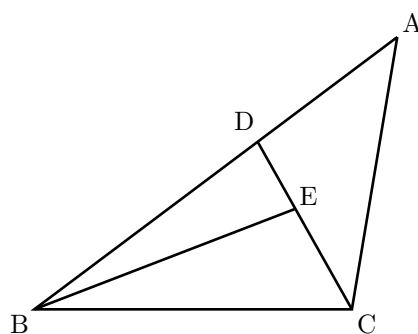
(4) $AD : DB = 3 : 5$, $DE : EC = 1 : 1$



(5) $AD : DC = 5 : 2$, $BE : ED = 2 : 1$

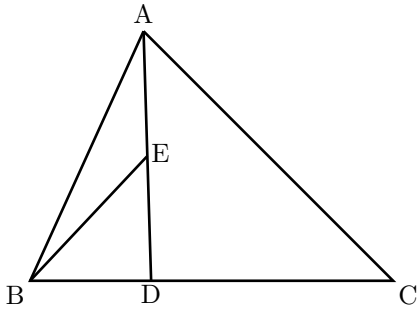


(6) $AD : DB = 5 : 8$, $CE : ED = 3 : 2$

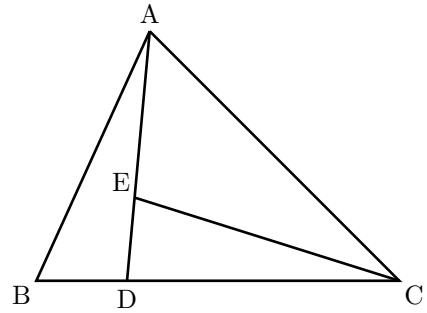


2. 下図の三角形の内部に面積比を書き込め。(S級50秒, A級1分15秒, B級2分, C級3分)

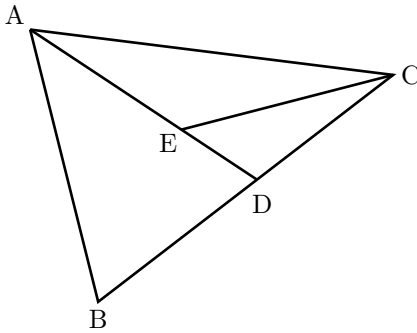
(1) $BD : DC = 1 : 2$, $AE : ED = 1 : 1$



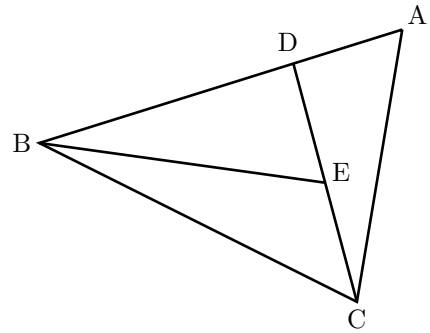
(2) $BD : DC = 1 : 3$, $AE : ED = 2 : 1$



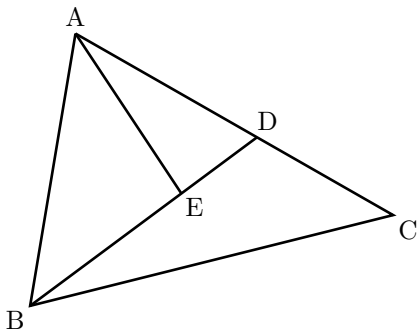
(3) $BD : DC = 7 : 6$, $AE : ED = 2 : 1$



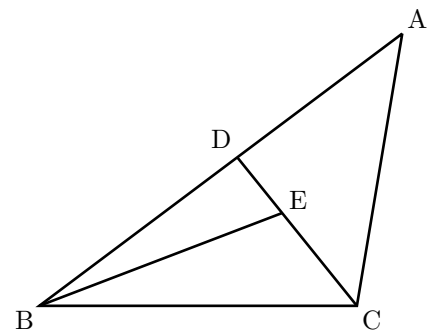
(4) $AD : DB = 3 : 7$, $DE : EC = 1 : 1$



(5) $AD : DC = 4 : 3$, $BE : ED = 2 : 1$

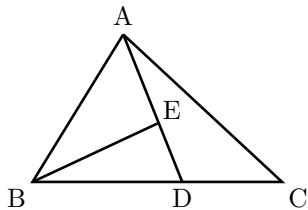


(6) $AD : DB = 5 : 6$, $CE : ED = 5 : 3$



反射テスト 面積比 三角形 in 三角形 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50秒, A級1分15秒, B級2分, C級3分)



★図形の基本は三角形(最重要格言) ☆必ず○と△を図にかきこむこと.

$$\begin{cases} \triangle ABD : \triangle ACD = BD : DC \\ \triangle ABE : \triangle ABD = AE : ED \end{cases}$$

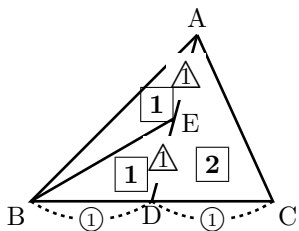
$$\Rightarrow \triangle ABE : \triangle ABD : \triangle ACD = (BD \times AE) : (BD \times ED) : (DC \times AD)$$

☆イメージ BC ⊥ AD と考えて, BC を底辺, AD を高さとする.

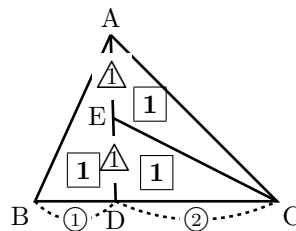
「÷2」は3つの三角形に共通なので計算しなくても結果は等しい.

(1) $BD : DC = 1 : 1, AE : ED = 1 : 1$

(2) $BD : DC = 1 : 2, AE : ED = 1 : 1$



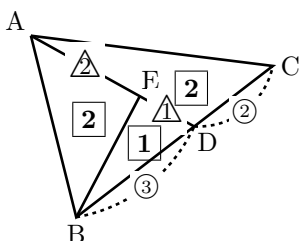
$$\begin{aligned} \triangle ABE : \triangle EBD : \triangle ACD \\ &= (1 \times \triangle) : (1 \times \triangle) : (1 \times \triangle) \\ &= 1 : 1 : 2 \end{aligned}$$



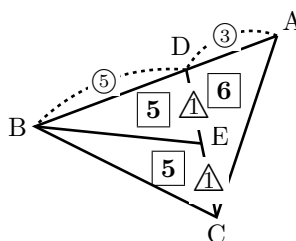
$$\begin{aligned} \triangle ABD : \triangle ACE : \triangle ECD \\ &= (1 \times \triangle) : (2 \times \triangle) : (2 \times \triangle) \\ &= 2 : 2 : 2 = 1 : 1 : 1 \end{aligned}$$

(3) $BD : DC = 3 : 2, AE : ED = 2 : 1$

(4) $AD : DB = 3 : 5, DE : EC = 1 : 1$



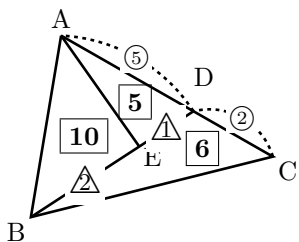
$$\begin{aligned} \triangle ABE : \triangle EBD : \triangle ACD \\ &= (3 \times \triangle) : (3 \times \triangle) : (2 \times \triangle) \\ &= 6 : 3 : 6 = 2 : 1 : 2 \end{aligned}$$



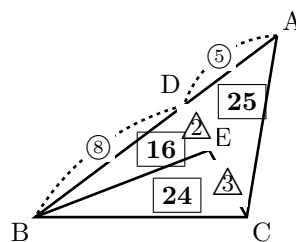
$$\begin{aligned} \triangle DBE : \triangle EBC : \triangle ADC \\ &= (5 \times \triangle) : (5 \times \triangle) : (3 \times \triangle) \\ &= 5 : 5 : 6 \end{aligned}$$

(5) $AD : DC = 5 : 2, BE : ED = 2 : 1$

(6) $AD : DB = 5 : 8, CE : ED = 3 : 2$



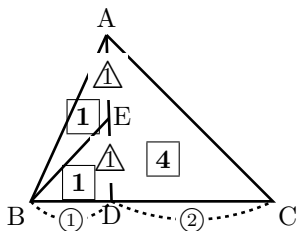
$$\begin{aligned} \triangle ABE : \triangle AED : \triangle DBC \\ &= (5 \times \triangle) : (5 \times \triangle) : (2 \times \triangle) \\ &= 10 : 5 : 6 \end{aligned}$$



$$\begin{aligned} \triangle DBE : \triangle EBC : \triangle ADC \\ &= (8 \times \triangle) : (8 \times \triangle) : (5 \times \triangle) \\ &= 16 : 24 : 25 \end{aligned}$$

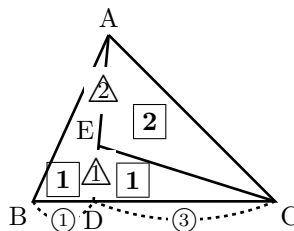
2. 下図の三角形の内部に面積比を書き込め。(S級50秒, A級1分15秒, B級2分, C級3分)

(1) $BD : DC = 1 : 2$, $AE : ED = 1 : 1$



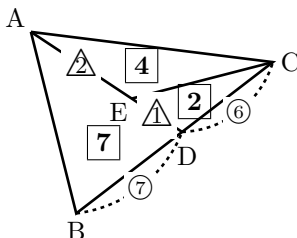
$$\begin{aligned} \triangle ABE : \triangle EBD : \triangle ACD \\ &= (1 \times 1) : (1 \times 1) : (2 \times 1) \\ &= 1 : 1 : 4 \end{aligned}$$

(2) $BD : DC = 1 : 3$, $AE : ED = 2 : 1$



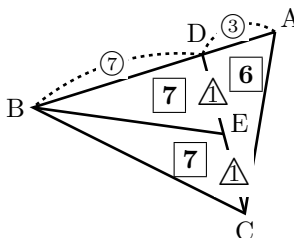
$$\begin{aligned} \triangle ABD : \triangle ACE : \triangle ECD \\ &= (1 \times 2) : (3 \times 1) : (3 \times 1) \\ &= 3 : 6 : 3 = 1 : 2 : 1 \end{aligned}$$

(3) $BD : DC = 7 : 6$, $AE : ED = 2 : 1$



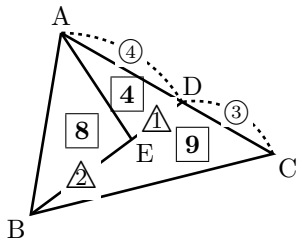
$$\begin{aligned} \triangle ABD : \triangle AEC : \triangle EDC \\ &= (7 \times 2) : (6 \times 1) : (6 \times 1) \\ &= 21 : 12 : 6 = 7 : 4 : 2 \end{aligned}$$

(4) $AD : DB = 3 : 7$, $DE : EC = 1 : 1$



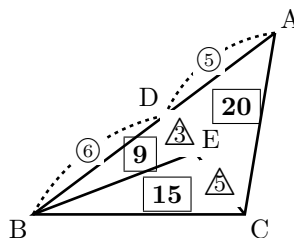
$$\begin{aligned} \triangle DBE : \triangle EBC : \triangle ADC \\ &= (7 \times 1) : (7 \times 1) : (3 \times 1) \\ &= 7 : 7 : 6 \end{aligned}$$

(5) $AD : DC = 4 : 3$, $BE : ED = 2 : 1$



$$\begin{aligned} \triangle ABE : \triangle AED : \triangle DBC \\ &= (4 \times 2) : (4 \times 1) : (3 \times 1) \\ &= 8 : 4 : 9 \end{aligned}$$

(6) $AD : DB = 5 : 6$, $CE : ED = 5 : 3$



$$\begin{aligned} \triangle DBE : \triangle EBC : \triangle ADC \\ &= (6 \times 3) : (6 \times 5) : (5 \times 1) \\ &= 18 : 30 : 40 = 9 : 15 : 20 \end{aligned}$$