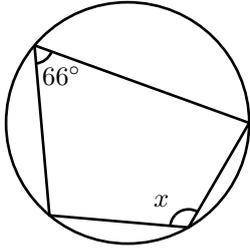


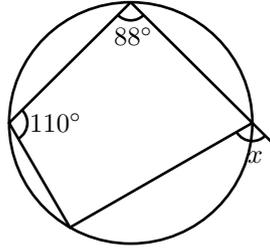
反射テスト 角度 円の内接四角形 01

1. $\angle x$, $\angle y$ の角度を求めよ. (S 級 2 分, A 級 3 分, B 級 4 分, C 級 5 分)

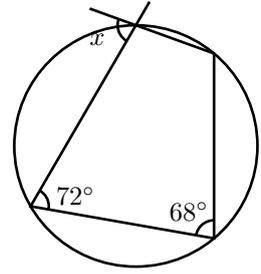
(1)



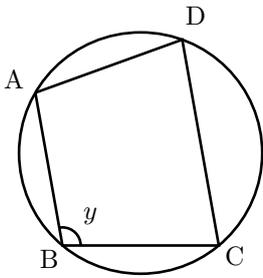
(2)



(3)

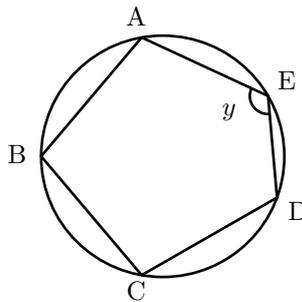


(4)
$$\begin{cases} \angle ADB = 38^\circ \\ \angle BAC = 43^\circ \\ \angle BDC = x^\circ \end{cases}$$

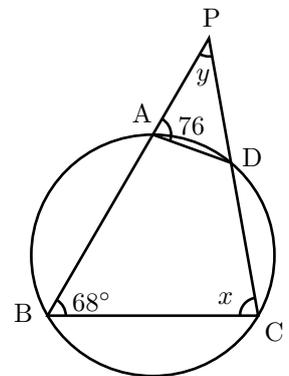


(5)
$$\begin{cases} \angle BAC = 40^\circ \\ \angle CFD = 75^\circ \\ \angle ABD = x^\circ \end{cases}$$

F は AC と BD の交点

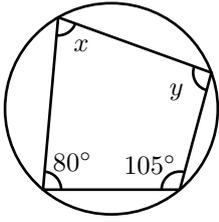


(6)

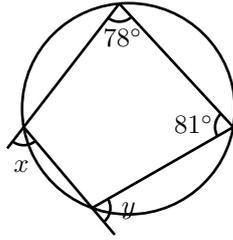


2. $\angle x$, $\angle y$ の角度を求めよ。(S級3分30秒, A級5分, B級7分, C級9分)

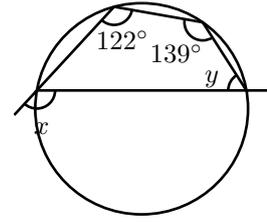
(1)



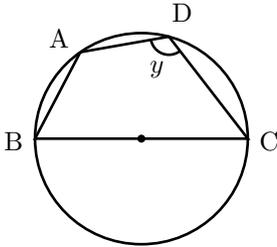
(2)



(3)

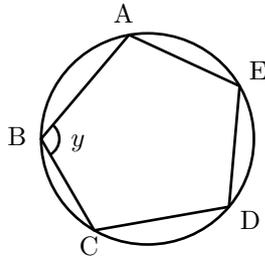


(4)
$$\begin{cases} \angle BAD = 140^\circ \\ \angle ACD = 28^\circ \\ \angle DBC = x^\circ \end{cases}$$



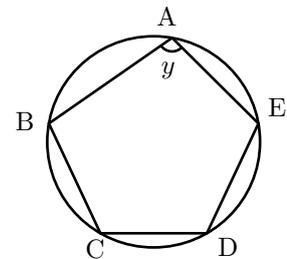
(5)
$$\begin{cases} \angle DAE = 36^\circ \\ \angle AFC = 115^\circ \\ \angle AEC = x^\circ \end{cases}$$

FはADとCEの交点

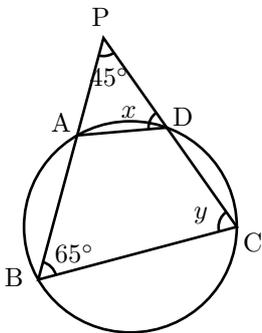


(6)
$$\begin{cases} \angle BCD = 108^\circ \\ \angle CED = 28^\circ \\ \angle ECD = x^\circ \end{cases}$$

BE // CD

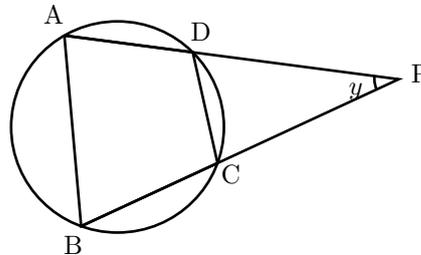


(7)



(8)
$$\begin{cases} \angle PCD = 85^\circ \\ \angle ADB = 62^\circ \\ \angle ABD = x^\circ \end{cases}$$

BDは $\angle ABC$ の二等分線



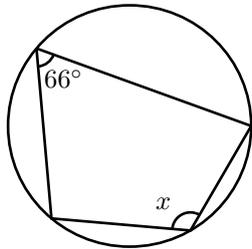
反射テスト 角度 円の内接四角形 01 解答解説

1. $\angle x$, $\angle y$ の角度を求めよ. (S級2分, A級3分, B級4分, C級5分)

★円の内接四角形

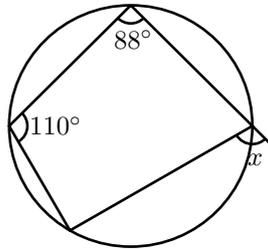
- ① 対角の和が 180° .
- ② 対角の外角と等しい.

(1)



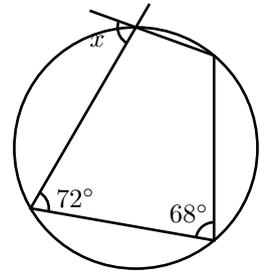
$\angle x = 180 - 66 = 114^\circ$...答え

(2)



$\angle x = 110^\circ$...答え

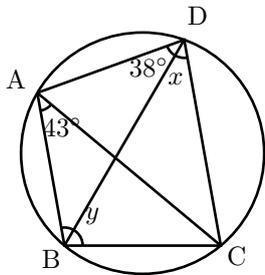
(3)



$\angle x = 68^\circ$...答え

(4)

$$\begin{cases} \angle ADB = 38^\circ \\ \angle BAC = 43^\circ \\ \angle BDC = x^\circ \end{cases}$$

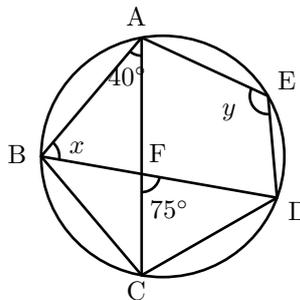


$\angle x = 43^\circ$...答え
 $\angle y = 180 - (38 + 43)$
 $= 99^\circ$...答え

(5)

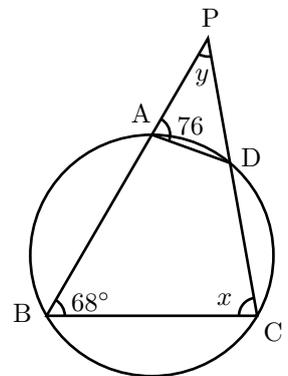
$$\begin{cases} \angle BAC = 40^\circ \\ \angle CFD = 75^\circ \\ \angle ABD = x^\circ \end{cases}$$

FはACとBDの交点



$\triangle ABF$ の内角から,
 $\angle x = 180 - (75 + 40)$
 $= 65^\circ$...答え
 四角形 ABDE から,
 $\angle y = 180 - 65$
 $= 115^\circ$...答え

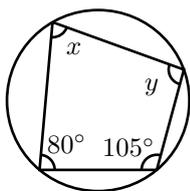
(6)



四角形 ABCD から,
 $\angle x = 76^\circ$...答え
 $\triangle PBC$ の内角から,
 $\angle y = 180 - (68 + 76)$
 $= 36^\circ$...答え

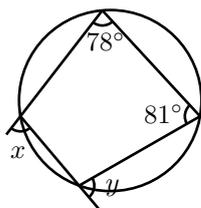
2. $\angle x$, $\angle y$ の角度を求めよ。(S級3分30秒, A級5分, B級7分, C級9分)

(1)



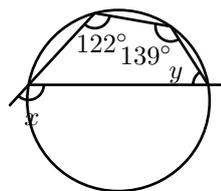
$$\begin{aligned}\angle x &= 180 - 105 = 75^\circ && \cdots\text{答え} \\ \angle y &= 180 - 80 = 100^\circ && \cdots\text{答え}\end{aligned}$$

(2)



$$\begin{aligned}\angle x &= 81^\circ && \cdots\text{答え} \\ \angle y &= 78^\circ && \cdots\text{答え}\end{aligned}$$

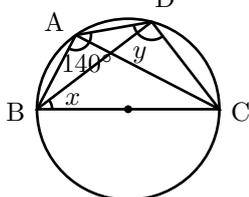
(3)



$$\begin{aligned}\angle x &= 139^\circ && \cdots\text{答え} \\ \angle y &= 180 - 122 = 58^\circ && \cdots\text{答え}\end{aligned}$$

(4)

$$\begin{cases} \angle BAD = 140^\circ \\ \angle ACD = 28^\circ \\ \angle DBC = x^\circ \end{cases}$$

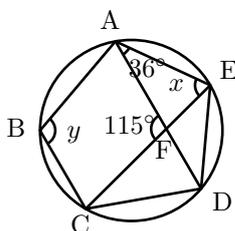


$$\begin{aligned}\angle x &= \angle DAC \\ &= 140 - 90 = 50^\circ && \cdots\text{答え} \\ \angle ABD &= \angle ACD = 28^\circ \\ \angle y &= 180 - \angle ABC \\ &= 180 - (28 + 50) \\ &= 102^\circ && \cdots\text{答え}\end{aligned}$$

(5)

$$\begin{cases} \angle DAE = 36^\circ \\ \angle AFC = 115^\circ \\ \angle AEC = x^\circ \end{cases}$$

FはADとCEの交点

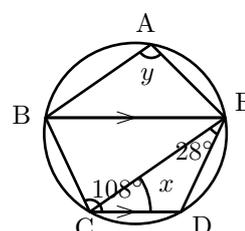


$$\begin{aligned}\triangle AEF \text{ の内角と外角から,} \\ \angle x &= 115 - 36 = 79^\circ && \cdots\text{答え} \\ \text{四角形 ABCE から,} \\ \angle y &= 180 - 79 \\ &= 101^\circ && \cdots\text{答え}\end{aligned}$$

(6)

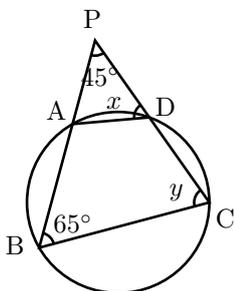
$$\begin{cases} \angle BCD = 108^\circ \\ \angle CED = 28^\circ \\ \angle ECD = x^\circ \end{cases}$$

BE // CD



$$\begin{aligned}\text{四角形 BCDE から,} \\ \angle BED &= 180 - 108 = 72 \\ \text{BE // CD から,} \\ \angle x &= \angle BEC = 72 - 28 \\ &= 44^\circ && \cdots\text{答え} \\ \text{四角形 ABCE から,} \\ \angle y &= 180 - \angle BCE \\ &= 180 - (108 - 44) = 116^\circ && \cdots\text{答え}\end{aligned}$$

(7)

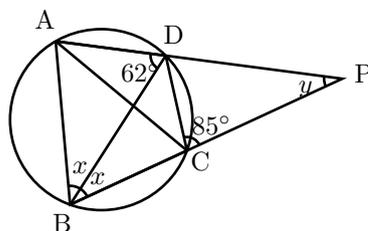


$$\begin{aligned}\angle x &= 65^\circ && \cdots\text{答え} \\ \triangle PAD \text{ の内角から,} \\ \angle PAD &= 180 - (65 + 45) = 70^\circ \\ \text{四角形 ABCD から,} \\ \angle y &= 70^\circ && \cdots\text{答え}\end{aligned}$$

(8)

$$\begin{cases} \angle PCD = 85^\circ \\ \angle ADB = 62^\circ \\ \angle ABD = x^\circ \end{cases}$$

BDは $\angle ABC$ の二等分線



$$\begin{aligned}\text{四角形 ABCD から } \angle BAD &= 85^\circ \\ \triangle ABD \text{ の内角から,} \\ \angle x &= 180 - (85 + 62) = 33^\circ && \cdots\text{答え} \\ \triangle PDB \text{ の内角と外角から,} \\ \angle y &= 62 - 33 = 29^\circ && \cdots\text{答え}\end{aligned}$$