

三平方の定理を使って面積を求める 1

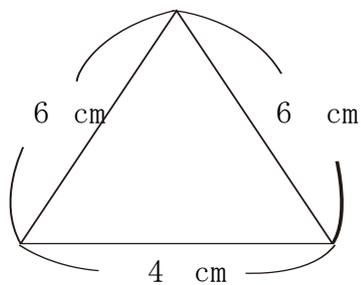
NO 2

名前

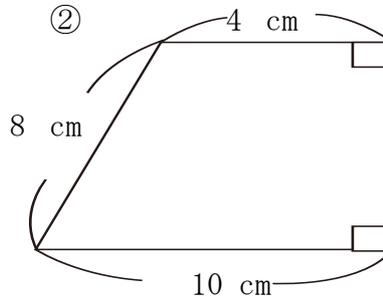
6 点

1 次の三角形、四角形の面積を求めなさい。

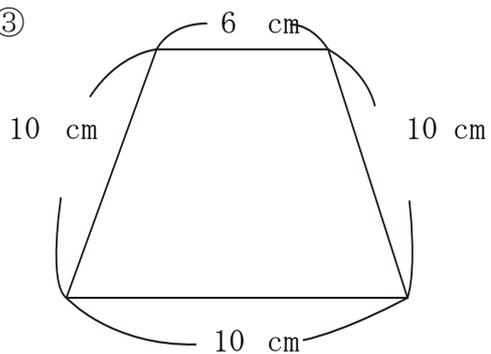
①



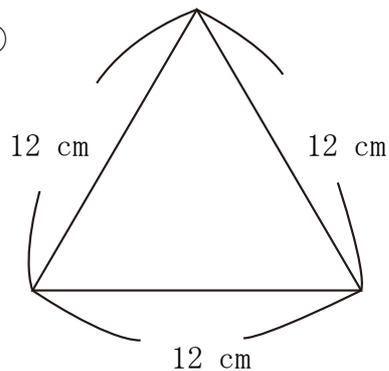
②



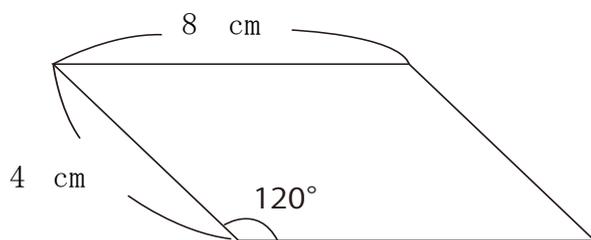
③



④

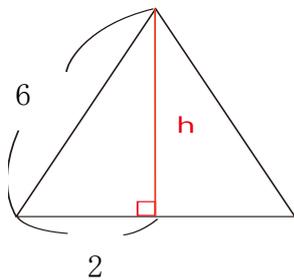


2 次の平行四辺形の面積を求めなさい。



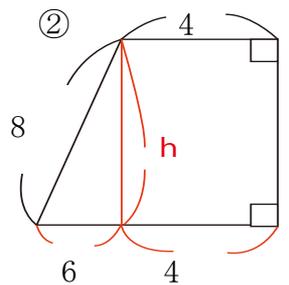
解答

1 ① 高さをhとする



$$\begin{aligned} h^2 &= 6^2 - 2^2 \\ &= 32 \\ h &= 4\sqrt{2} \end{aligned}$$

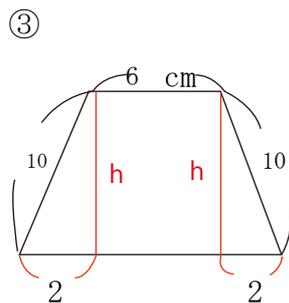
$$\text{面積} = 4 \times 4\sqrt{2} \div 2 = 8\sqrt{2} \text{ (cm}^2\text{)}$$



② 図の部分をhとする。

$$\begin{aligned} h^2 &= 8^2 - 6^2 \\ &= 28 \qquad h = 2\sqrt{7} \end{aligned}$$

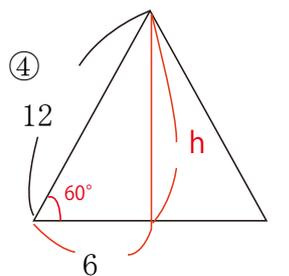
$$\begin{aligned} \text{面積} &= (4 + 10) \times 2\sqrt{7} \div 2 \\ &= 14\sqrt{7} \text{ (cm}^2\text{)} \end{aligned}$$



③ 図の高さをhとする。

$$\begin{aligned} h^2 &= 10^2 - 2^2 \\ &= 96 \qquad h = 4\sqrt{6} \end{aligned}$$

$$\begin{aligned} \text{面積} &= (6 + 10) \times 4\sqrt{6} \div 2 \\ &= 32\sqrt{6} \text{ (cm}^2\text{)} \end{aligned}$$

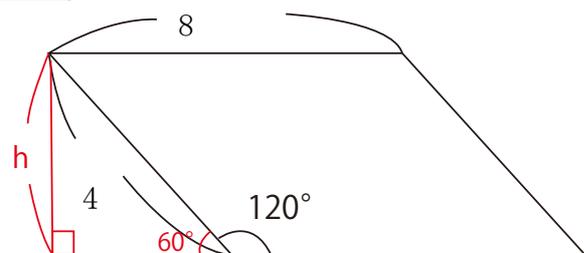


④ 高さをhとする

$$\begin{aligned} 1 : \sqrt{3} &= 6 : h \\ h &= 6\sqrt{3} \end{aligned}$$

$$\text{面積} = 12 \times 6\sqrt{3} \div 2 = 36\sqrt{3} \text{ (cm}^2\text{)}$$

2 図のように高さをとりhとする



$$\begin{aligned} h : 4 &= \sqrt{3} : 2 \\ h &= 2\sqrt{3} \end{aligned}$$

$$\begin{aligned} \text{面積} &= 8 \times 2\sqrt{3} \\ &= 16\sqrt{3} \text{ (cm}^2\text{)} \end{aligned}$$