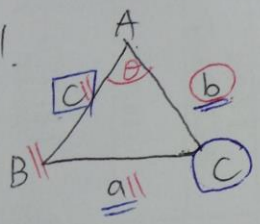
0428 週考解析

一、填充A.

1.



(1) $\sin A:\sin B:\sin C$ (正弦)

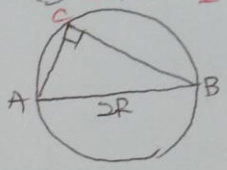
(2) 直角.

(3) $a^2+c^2-2ac\cos B$

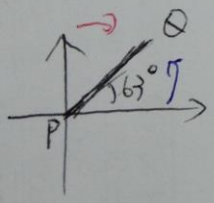
(4) $\frac{a^2+b^2-c^2}{2ab}$

(5) $\frac{1}{2}bc\sin A=\frac{1}{2}ac\sin B=\frac{1}{2}ab\sin C$

② $\angle ACB=\frac{180°}{2}=90°$



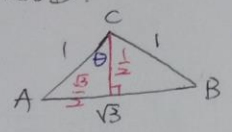
2.



① 東63°北

② 北27°東

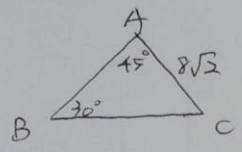
二、填充題.

3. 

$\therefore \theta = 60^\circ$

$\therefore \angle ACB = 2\theta = 120^\circ$

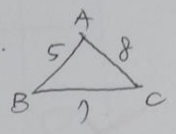
$\therefore$ 為鈍角$\triangle$.

4. 

$\frac{8\sqrt{2}}{\sin 30^\circ} = 2R$.

$\frac{8\sqrt{2}}{\frac{1}{2}} = 2R$

$\therefore R = 8\sqrt{2}$ ※

5. 

$\cos A = \frac{5^2+8^2-7^2}{2\cdot 5\cdot 8}$

$= \frac{40}{80} = \frac{1}{2}$

$\therefore \angle A = 60^\circ$ ※

6. $a^2-(b+c)^2 = -bc$.

$a^2-(b^2+2bc+c^2) = -bc$

$a^2-b^2+c^2-2bc = -bc$

$a^2-b^2-c^2 = bc$

$\Rightarrow \frac{a^2-b^2-c^2}{bc} = 1$.

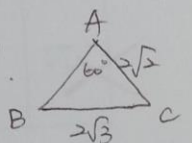
同乘 $\frac{-1}{2}$

$\Rightarrow \frac{-(a^2-b^2-c^2)}{2bc} = \frac{-1}{2}$

$\Rightarrow \frac{b^2+c^2-a^2}{2bc} = -\frac{1}{2}$

$\therefore \cos A = -\frac{1}{2}$

$\therefore \angle A = 120^\circ$ ※

7. 

$\frac{2\sqrt{3}}{\sin 60^\circ} = \frac{2\sqrt{2}}{\sin B}$.

$\frac{4\sqrt{3}}{\frac{\sqrt{3}}{2}} = \frac{4\sqrt{2}}{\sin B}$

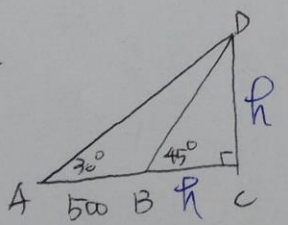
$\sqrt{3}\sin B = \frac{1}{2}\cdot\sqrt{3}\cdot\sqrt{2}$

$\therefore \sin B = \frac{\sqrt{2}}{2}$

$\therefore \angle B = 45^\circ$ 或 135° (不合)

$\therefore \angle B = 45^\circ \Rightarrow \angle C = 180^\circ - 60^\circ - 45^\circ$

$= 75^\circ$ ※

8. 

$\therefore \tan 30^\circ = \frac{h}{500+h}$

$\frac{1}{\sqrt{3}} = \frac{h}{500+h}$

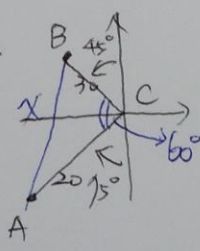
$\Rightarrow 500+h = \sqrt{3}h$

$h(\sqrt{3}-1) = 500$

$\therefore h = \frac{500}{\sqrt{3}-1}\cdot\frac{\sqrt{3}+1}{\sqrt{3}+1}$

$= \frac{500(\sqrt{3}+1)}{2}$

$= 250\sqrt{3}+250$ ※

9. 

$\cos 60^\circ = \frac{2^2+3^2-x^2}{2\cdot 2\cdot 3}$

$\frac{1}{2} = \frac{4+9-x^2}{4\cdot 6}$.

$6 = 13-x^2$

$x^2 = 7$ $\therefore x = \sqrt{7}$

$\therefore \overline{AB} = 10\sqrt{7}$ ※