22 次のような△ABCの面積を求めよ.【⋆】

(1) $b=3, a=4, C=30^\circ$

$S=\frac{1}{2}\cdot a\cdot b\cdot \sin C$

$=\frac{1}{2}\cdot 3\cdot 4\cdot \sin 30^\circ$

$=3$ //

(2) $a=\sqrt{2}, c=3, B=135^\circ$

$S=\frac{1}{2}\cdot\sqrt{2}\cdot 3\cdot\frac{1}{\sqrt{2}}$

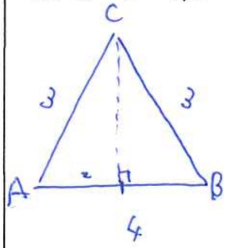
$=\frac{3}{2}$ //

(3) $c=8, b=6, A=120^\circ$

$S=\frac{1}{2}\cdot 6\cdot 8\cdot\frac{\sqrt{3}}{2}$

$=12\sqrt{3}$ //

(4) $a=b=3, c=4$



ABの中点Mをおく.

$AM=2.$

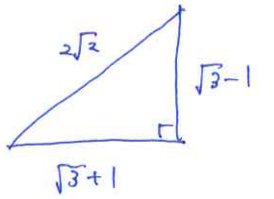
$MC^2=9-4=5.$

$MC=\sqrt{5}$

$\therefore S=\frac{1}{2}\cdot 4\cdot\sqrt{5}$

$=2\sqrt{5}$ //

(5) $a=2\sqrt{2}, b=\sqrt{3}+1, c=\sqrt{3}-1$



$a^2=8$

$b^2=4+2\sqrt{3}$

$c^2=4-2\sqrt{3}$

i.e. $a^2=b^2+c^2$が成立.

∴ △ABCは斜辺がaの直角三角形.

$S=\frac{1}{2}\cdot(\sqrt{3}+1)\cdot(\sqrt{3}-1)$

$=1$ //