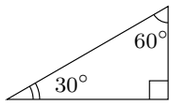
# 数学Ⅰ　授業プリント ＃ 55（その 3）改

年　　組　　号

氏名

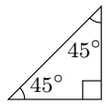
**（復習）**次の直角三角形を用いて，30°，45°，60°，120°，135°，150° の sin，cos，tan の値を求めなさい。




$\sin 30^\circ =$ □

$\cos 30^\circ =$ □

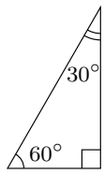
$\tan 30^\circ =$ □




$\sin 45^\circ =$ □

$\cos 45^\circ =$ □

$\tan 45^\circ =$ □

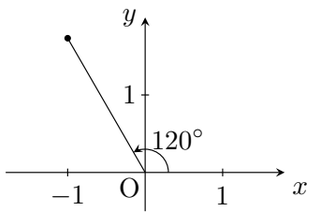



$\sin 60^\circ =$ □

$\cos 60^\circ =$ □

$\tan 60^\circ =$ □

## ■ 120° の三角比

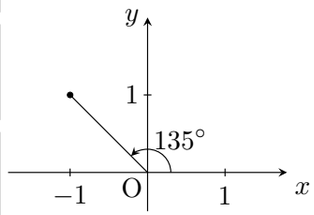



$\sin 120^\circ =$ □

$\cos 120^\circ =$ □

$\tan 120^\circ =$ □

## ■ 135° の三角比

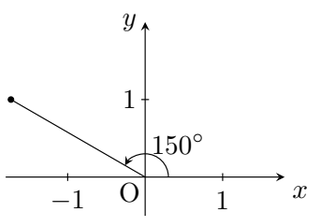



$\sin 135^\circ =$ □

$\cos 135^\circ =$ □

$\tan 135^\circ =$ □

## ■ 150° の三角比




$\sin 150^\circ =$ □

$\cos 150^\circ =$ □

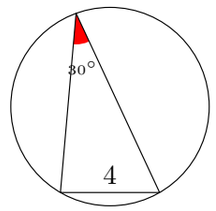
$\tan 150^\circ =$ □

## ■ 正弦定理（正弦（せいげん）とは sin のことです）

正弦定理を使うと、外接円の半径 $R$ を求めることができる。

$$\frac{\text{角度の向かい側にある辺の長さ}}{\sin \text{角度}} = 2R$$

例題　右の三角形で，△ABC の外接円の半径 $R$ を求めよ。




解

$$\frac{4}{\sin 30^\circ} = 2R$$

$$\frac{1}{\cancel{2}_1} \times \frac{\cancel{4}^{2}}{\sin 30^\circ} = 2R \times \frac{1}{2}$$

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

$$2 \div \sin 30^\circ = R$$

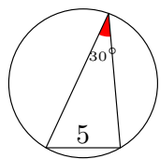
$$2 \div \frac{1}{2} = R$$

$$2 \times \frac{2}{1} = R$$

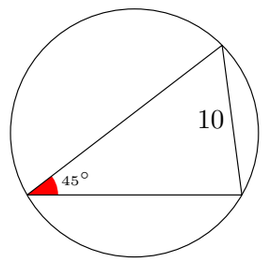
答　$4 = R$

**1**　次の三角形の外接円の半径 $R$ を求めなさい。

(1)

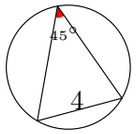



(2)

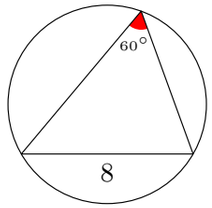



**＃55（その 3）改** **1** (3) $2\sqrt{2}$ (4) $\frac{8\sqrt{3}}{3}$ (5) 7 (6) 5 (7) 1 (8) $\sqrt{3}$　**2** (1) $\frac{10\sqrt{3}}{3}$ (2) $\frac{7\sqrt{2}}{2}$ (3) 6 (4) $\frac{5\sqrt{6}}{3}$

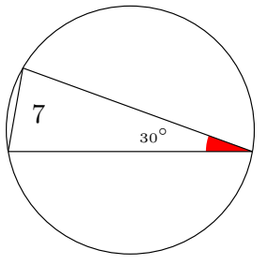
(3)



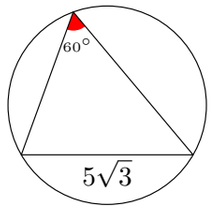

(4)



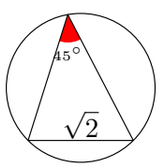

(5)



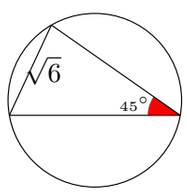

(6)




(7)

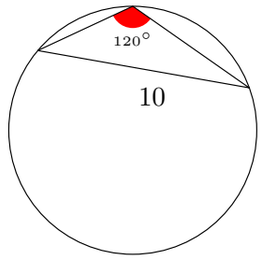



(8)

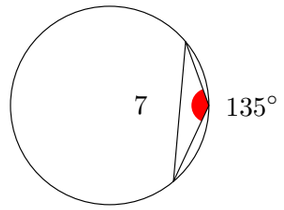



**2** 次の三角形の外接円の半径 $R$ を求めなさい。

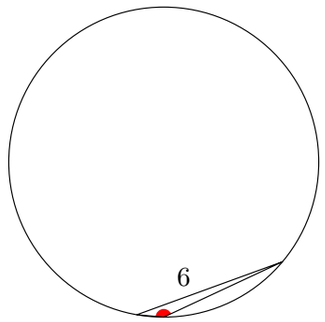
(1)



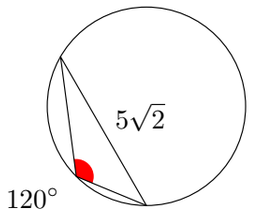

(2)




(3)




(4)




#55 (その3) 改 $\sin 30^\circ = \frac{1}{2}, \sin 45^\circ = \frac{1}{\sqrt{2}}, \sin 60^\circ = \frac{\sqrt{3}}{2}$　$\frac{\sqrt{3}}{2}, \frac{1}{\sqrt{2}}, \frac{1}{2}$　$\frac{1}{\sqrt{3}}, 1, \sqrt{3}$　$\sin 120^\circ = \frac{\sqrt{3}}{2}, \cos 120^\circ = -\frac{1}{2}, \tan 120^\circ = -\sqrt{3}$　$\frac{1}{\sqrt{2}}, -\frac{1}{\sqrt{2}}, -1$　$\frac{1}{2}, -\frac{\sqrt{3}}{2}, -\frac{1}{\sqrt{3}}$　**1** (1) 5 (2) $5\sqrt{2}$