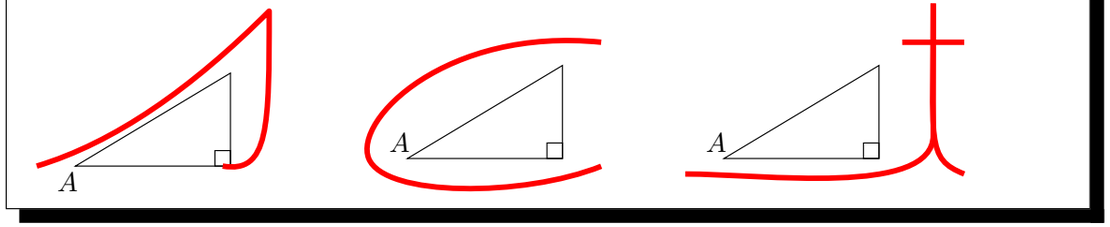
数学Ⅰ　授業プリント ＃ 56

年　　組　　号

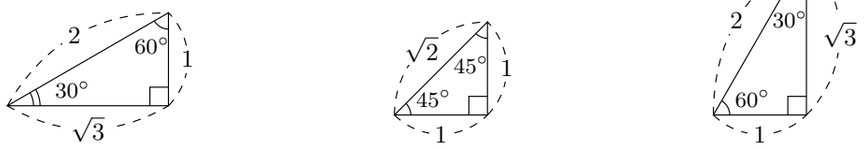
氏名

■ 三角比の拡張

- $\sin \mathrm{A} = \dfrac{\text{縦}}{\text{斜め}}$
- $\cos \mathrm{A} = \dfrac{\text{横}}{\text{斜め}}$
- $\tan \mathrm{A} = \dfrac{\text{縦}}{\text{横}}$



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

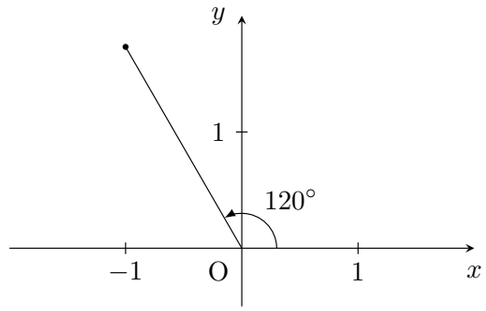


$\sin 30^\circ =$ □　　$\sin 45^\circ =$ □　　$\sin 60^\circ =$ □

$\cos 30^\circ =$ □　　$\cos 45^\circ =$ □　　$\cos 60^\circ =$ □

$\tan 30^\circ =$ □　　$\tan 45^\circ =$ □　　$\tan 60^\circ =$ □

■ 120° の三角比

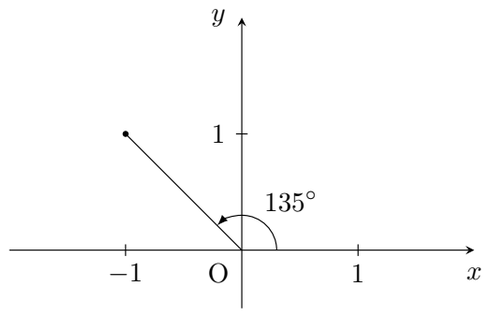


$\sin 120^\circ =$ □

$\cos 120^\circ =$ □

$\tan 120^\circ =$ □

■ 135° の三角比

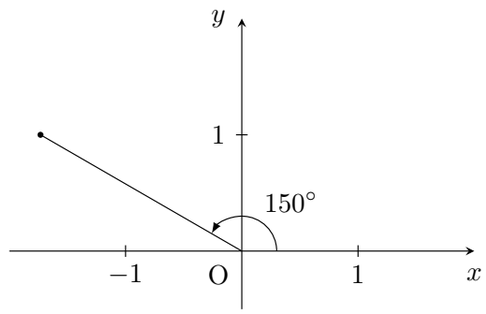


$\sin 135^\circ =$ □

$\cos 135^\circ =$ □

$\tan 135^\circ =$ □

■ 150° の三角比



$\sin 150^\circ =$ □

$\cos 150^\circ =$ □

$\tan 150^\circ =$ □

数学プリント#58 $\sin 30^\circ = \dfrac{1}{2}$, $\sin 45^\circ = \dfrac{1}{\sqrt{2}}$, $\sin 60^\circ = \dfrac{\sqrt{3}}{2}$, $\cos 30^\circ = \dfrac{\sqrt{3}}{2}$, $\cos 45^\circ = \dfrac{1}{\sqrt{2}}$, $\cos 60^\circ = \dfrac{1}{2}$, $\tan 30^\circ = \dfrac{1}{\sqrt{3}}$, $\tan 45^\circ = 1$, $\tan 60^\circ = \sqrt{3}$, $\sin 120^\circ = \dfrac{\sqrt{3}}{2}$, $\cos 120^\circ = \dfrac{-1}{2}$, $\tan 120^\circ = -\sqrt{3}$, $\sin 135^\circ = \dfrac{1}{\sqrt{2}}$, $\cos 135^\circ = \dfrac{-1}{\sqrt{2}}$, $\tan 135^\circ = -1$, $\sin 150^\circ = \dfrac{1}{2}$, $\cos 150^\circ = \dfrac{-\sqrt{3}}{2}$, $\tan 150^\circ = \dfrac{1}{-\sqrt{3}}$ 1 (1) $5\sqrt{2}$ (2) $12\sqrt{3}$ (3) $\dfrac{27}{2}$ (4) $51\sqrt{2}$ (5) $2\sqrt{3}$ (6) $6\sqrt{3}$ (7) 6 (8) $3\sqrt{2}$

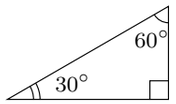
数学Ⅰ　授業プリント ＃ 58

年　　組　　号

氏名

■　三角比の拡張（90°〜180° の三角比）

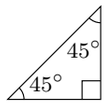
（復習） 次の直角三角形を用いて，30°，45°，60°，120°，135°，150° の sin，cos，tan の値を求めなさい。



$\sin 30^\circ =$ □

$\cos 30^\circ =$ □

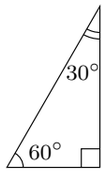
$\tan 30^\circ =$ □



$\sin 45^\circ =$ □

$\cos 45^\circ =$ □

$\tan 45^\circ =$ □

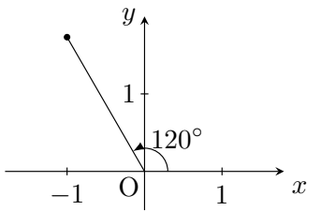


$\sin 60^\circ =$ □

$\cos 60^\circ =$ □

$\tan 60^\circ =$ □

■ 120° の三角比

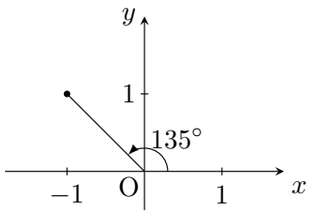


$\sin 120^\circ =$ □

$\cos 120^\circ =$ □

$\tan 120^\circ =$ □

■ 135° の三角比

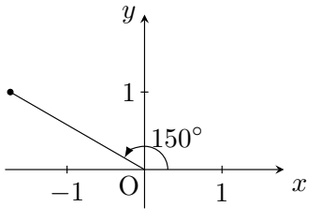


$\sin 120^\circ =$ □

$\cos 120^\circ =$ □

$\tan 120^\circ =$ □

■ 150° の三角比



$\sin 120^\circ =$ □

$\cos 120^\circ =$ □

$\tan 120^\circ =$ □

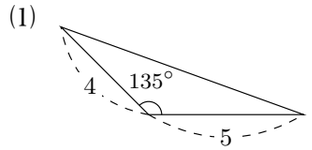
■　三角形の面積

今日は 120°，135°，150° を使って，以前学んだ三角形の面積を計算しよう。

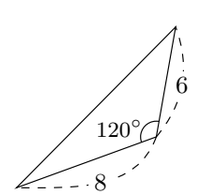
$$(\text{三角形の面積}) = \frac{1}{2} \times (\text{辺の長さ}) \times (\text{辺の長さ}) \times \sin(\text{間の角度})$$

1 次の三角形の面積を求めなさい。

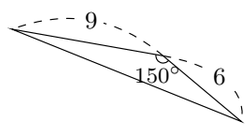
(1)



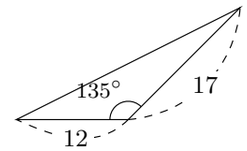
(2)



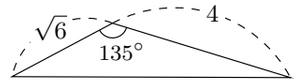
(3)



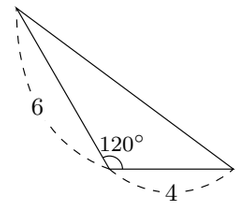
(4)



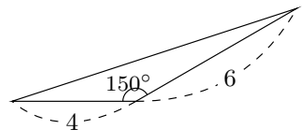
(5)



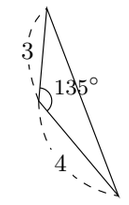
(6)



(7)



(8)



数学プリント＃56 $\sin 30^\circ = \frac{1}{2}, \sin 45^\circ = \frac{1}{\sqrt{2}}, \sin 60^\circ = \frac{\sqrt{3}}{2}$　$\cos 30^\circ = \frac{\sqrt{3}}{2}, \cos 45^\circ = \frac{1}{\sqrt{2}}, \cos 60^\circ = \frac{1}{2}$　$\tan 30^\circ = \frac{1}{\sqrt{3}}, \tan 45^\circ = 1, \tan 60^\circ = \sqrt{3}$　$\sin 120^\circ = \frac{\sqrt{3}}{2}, \cos 120^\circ = \frac{-1}{2}, \tan 120^\circ = -\sqrt{3}$　$\sin 135^\circ = \frac{1}{\sqrt{2}}, \cos 135^\circ = \frac{-1}{\sqrt{2}}, \tan 135^\circ = -1$

$\sin 150^\circ = \frac{1}{2}, \cos 150^\circ = \frac{-\sqrt{3}}{2}, \tan 150^\circ = \frac{-1}{\sqrt{3}}$