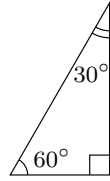
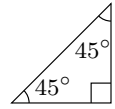
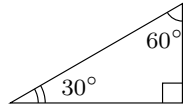


氏名 \_\_\_\_\_

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



$$\sin 30^\circ = \square$$

$$\cos 30^\circ = \square$$

$$\tan 30^\circ = \square$$

$$\sin 45^\circ = \square$$

$$\cos 45^\circ = \square$$

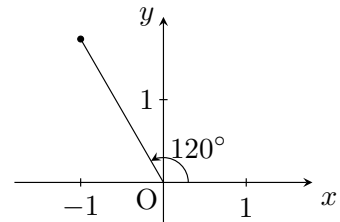
$$\tan 45^\circ = \square$$

$$\sin 60^\circ = \square$$

$$\cos 60^\circ = \square$$

$$\tan 60^\circ = \square$$

■  $120^\circ$  の三角比

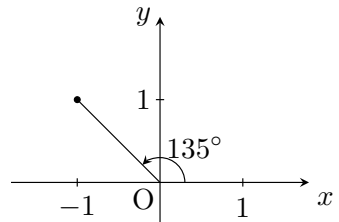


$$\sin 120^\circ = \square$$

$$\cos 120^\circ = \square$$

$$\tan 120^\circ = \square$$

■  $135^\circ$  の三角比

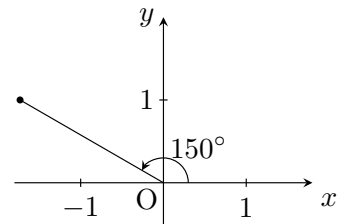


$$\sin 135^\circ = \square$$

$$\cos 135^\circ = \square$$

$$\tan 135^\circ = \square$$

■  $150^\circ$  の三角比



$$\sin 150^\circ = \square$$

$$\cos 150^\circ = \square$$

$$\tan 150^\circ = \square$$

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

例題 右の三角形で,  $x$  の長さを求めなさい。

解 正弦定理より  $\frac{x}{\sin 60^\circ} = \frac{8}{\sin 45^\circ}$  となる。

よって

$$\sin 60^\circ \times \frac{x}{\sin 60^\circ} = \frac{8}{\sin 45^\circ} \times \sin 60^\circ$$

$$x = \frac{8}{\sin 45^\circ} \times \sin 60^\circ$$

$$= 8 \div \sin 45^\circ \times \sin 60^\circ$$

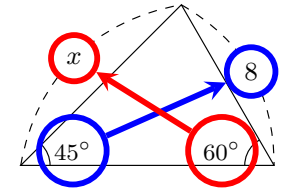
$$= 8 \div \frac{1}{\sqrt{2}} \times \frac{\sqrt{3}}{2}$$

$$= 8 \times \frac{\sqrt{2}}{1} \times \frac{\sqrt{3}}{2}$$

$$= 4 \times \frac{\sqrt{2}}{1} \times \frac{\sqrt{3}}{2}$$

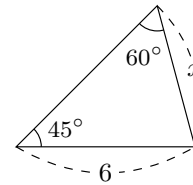
$$= 4 \times \sqrt{2} \times \sqrt{3}$$

$$= 4\sqrt{6}$$

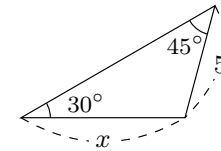


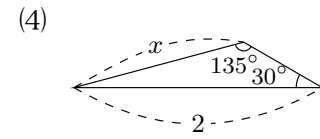
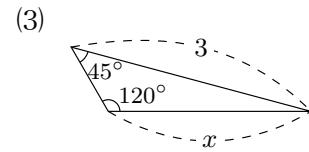
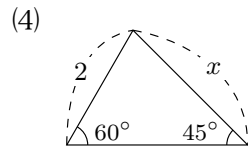
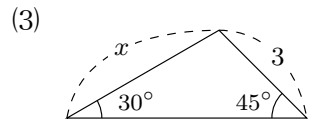
1 次の三角形の辺の長さ  $x$  を求めなさい。

(1)



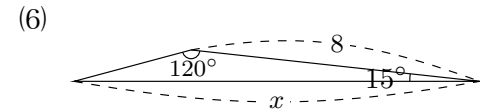
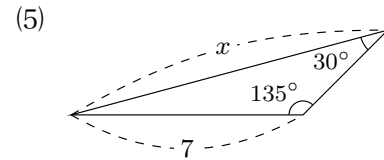
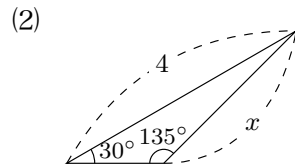
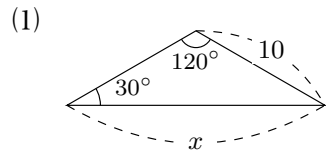
(2)





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

2 次の三角形の辺の長さ x を求めなさい。



$$\begin{aligned} \sin 150^\circ &= \frac{2}{1}, \cos 150^\circ = -\frac{\sqrt{3}}{2}, \tan 150^\circ = -\frac{1}{\sqrt{3}} \\ \sin 135^\circ &= \frac{\sqrt{2}}{2}, \cos 135^\circ = -\frac{\sqrt{2}}{2}, \tan 135^\circ = -1 \\ \sin 120^\circ &= \frac{\sqrt{3}}{2}, \cos 120^\circ = -\frac{1}{2}, \tan 120^\circ = -\sqrt{3} \\ \sin 30^\circ &= \frac{1}{2}, \cos 30^\circ = \frac{\sqrt{3}}{2}, \tan 30^\circ = \frac{1}{\sqrt{3}} \\ \sin 45^\circ &= \frac{\sqrt{2}}{2}, \cos 45^\circ = \frac{\sqrt{2}}{2}, \tan 45^\circ = 1 \\ \sin 60^\circ &= \frac{\sqrt{3}}{2}, \cos 60^\circ = \frac{1}{2}, \tan 60^\circ = \sqrt{3} \end{aligned}$$