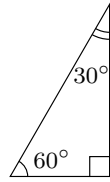
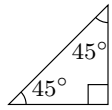
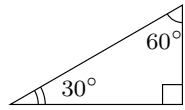


氏名 _____

(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。



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

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

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

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

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

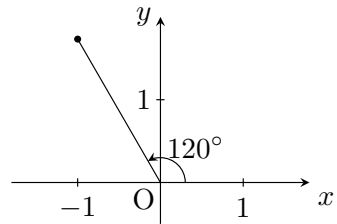
$$\tan 45^\circ = \square$$

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

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

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

■ 120° の三角比

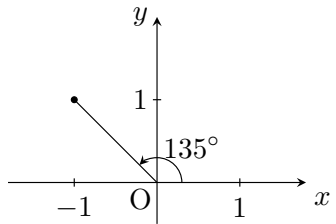


$$\sin 120^\circ = \square$$

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

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

■ 135° の三角比

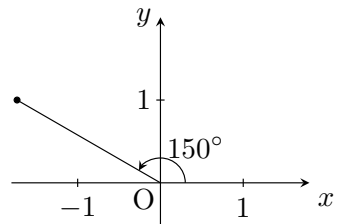


$$\sin 135^\circ = \square$$

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

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

■ 150° の三角比



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

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

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

■ 余弦定理 (余弦とは \cos のことです)

$$\left(\begin{array}{l} \text{角度の向かい} \\ \text{側の辺の長さ} \end{array} \right)^2 = \text{辺}^2 + \text{辺}^2 - 2 \times \text{辺} \times \text{辺} \times \cos(\text{間の角度})$$

例題 右の三角形で, x の長さを求めなさい。

解 余弦定理より

$$x^2 = 2^2 + 3^2 - 2 \times 2 \times 3 \times \cos 60^\circ$$

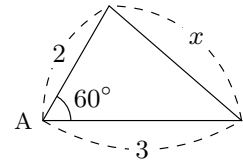
$$x^2 = 4 + 9 - 2 \times 2 \times 3 \times \frac{1}{2}$$

$$x^2 = 13 - 6$$

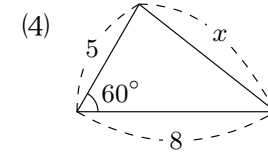
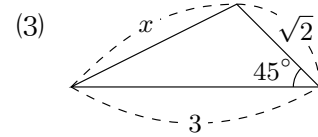
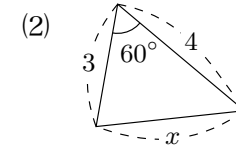
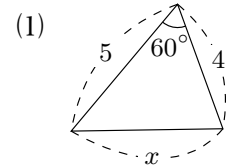
$$x^2 = 7$$

$$x = \pm\sqrt{7}$$

$x > 0$ だから $x = \sqrt{7}$ 答



1 次の三角形の辺の長さ x を求めなさい。



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

2 次の三角形の辺の長さ x を求めなさい。

