

第21回 三角比の拡張

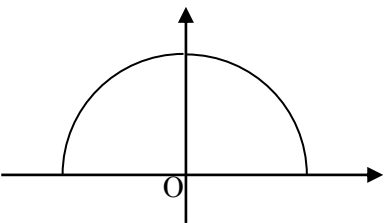
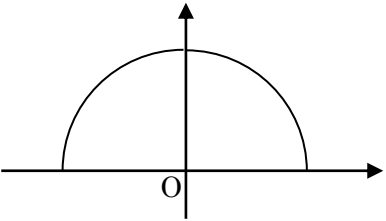
三角比の拡張

① $0^\circ \leq \theta \leq 180^\circ$ の三角比

$\sin \theta =$, $\cos \theta =$, $\tan \theta =$

② 単位円と三角比

$\sin \theta =$, $\cos \theta =$, $\tan \theta =$



	0°	30°	45°	60°	90°	120°	135°	150°	180°
sin									
cos									
tan									

Pattern. 1 鈍角の三角比

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(例題 1) 次の角度について正弦、余弦、正接の値を求めよ。

- (1) 135° (2) 150°

余角・補角の三角比

① $90^\circ - \theta$ の三角比

$\sin(90^\circ - \theta) =$, $\cos(90^\circ - \theta) =$, $\tan(90^\circ - \theta) =$

② $180^\circ - \theta$ の三角比

$\sin(180^\circ - \theta) =$, $\cos(180^\circ - \theta) =$, $\tan(180^\circ - \theta) =$

③ $90^\circ + \theta$ の三角比

$\sin(90^\circ + \theta) =$, $\cos(90^\circ + \theta) =$, $\tan(90^\circ + \theta) =$

Pattern. 2 余角・補角の三角比

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・全ての角を_____の三角比で書き表す

① $90^\circ - \theta \Rightarrow$

② $180^\circ - \theta \Rightarrow$

③ $90^\circ + \theta \Rightarrow$

A unit circle diagram on a Cartesian coordinate system. The circle is centered at the origin O and spans from 0 to 180 degrees. The x-axis and y-axis are shown with arrows. The origin is labeled O.

(例題 2) 次の式を簡単にせよ。

- (1) $\cos 170^\circ + \cos 70^\circ + \sin 80^\circ - \sin 160^\circ$
- (2) $\tan 145^\circ \tan 55^\circ - 3 \tan 155^\circ \tan 65^\circ$