1　2 次元ベクトル基礎

$\vec{a}(1,2)$,　$\vec{b}(3,4)$,　$\vec{c}(5,7)$,　$\vec{d}(-1,-2)$,　$\vec{e}(-3,-7)$ とする。以下の問いに答えよ。

※ $\hat{a}$は$\vec{a}$を正規化したもの (単位ベクトル) とする。

$\vec{ab} =$	$\vec{ba} =$	$\vec{a}+\vec{b} =$	$\vec{a}-\vec{b} =$
$\vec{bc} =$	$\vec{cb} =$	$\vec{b}+\vec{c} =$	$\vec{b}-\vec{c} =$
$\vec{cd} =$	$\vec{dc} =$	$\vec{c}+\vec{d} =$	$\vec{c}-\vec{d} =$
$\vec{de} =$	$\vec{ed} =$	$\vec{d}+\vec{e} =$	$\vec{d}-\vec{e} =$
$\lvert\vec{a}\rvert =$	$\lvert\vec{b}\rvert =$	$\lvert\vec{c}\rvert =$	$\lvert\vec{d}\rvert =$
$\lvert\vec{ab}\rvert =$	$\lvert\vec{bc}\rvert =$	$\lvert\vec{cd}\rvert =$	$\lvert\vec{de}\rvert =$
$\hat{a} =$	$\hat{b} =$	$\hat{c} =$	$\hat{d} =$
$\hat{ab} =$	$\hat{bc} =$	$\hat{cd} =$	$\hat{de} =$

2　内積となす角

$\vec{a}(1,2)$,　$\vec{b}(3,4)$,　$\vec{c}(5,7)$,　$\vec{d}(-1,-2)$,　$\vec{e}(-3,-7)$ とする。以下の問いに答えよ。

$\vec{a}\cdot\vec{b} =$	$\lvert\vec{a}\rvert\lvert\vec{b}\rvert =$	$\cos\theta =$
$\vec{b}\cdot\vec{c} =$	$\lvert\vec{b}\rvert\lvert\vec{c}\rvert =$	$\cos\theta =$
$\vec{c}\cdot\vec{d} =$	$\lvert\vec{c}\rvert\lvert\vec{d}\rvert =$	$\cos\theta =$
$\vec{d}\cdot\vec{e} =$	$\lvert\vec{d}\rvert\lvert\vec{e}\rvert =$	$\cos\theta =$

3　三角比 1

$\cos 30 =$	$\sin 30 =$
$\cos 45 =$	$\sin 45 =$
$\cos 60 =$	$\sin 60 =$
$\sin\frac{1}{6}\pi =$	$\sin\frac{1}{4}\pi =$
$\sin\frac{1}{3}\pi =$	$\sin\frac{1}{2}\pi =$
$\sin\frac{5}{4}\pi =$	$\sin\frac{7}{6}\pi =$
$\sin\pi =$	$\sin 2\pi =$
$\cos\frac{1}{6}\pi =$	$\cos\frac{1}{4}\pi =$
$\cos\frac{1}{3}\pi =$	$\cos\frac{1}{2}\pi =$
$\cos\frac{5}{4}\pi =$	$\cos\frac{5}{6}\pi =$
$\cos\pi =$	$\cos 2\pi =$

4　三角比 2

斜辺 c, 高さ b, 底 a, 底と斜辺のなす角 Θ　の直角三角形について以下の不明点を答えよ。

$a =$	$b =$	$c = 8$	$\Theta = 30$
$a =$	$b =$	$c = 3$	$\Theta = 45$
$a =$	$b =$	$c = 3$	$\Theta = 60$
$a =$	$b =$	$c = 5$	$\Theta = 30$
$a =$	$b =$	$c = 9$	$\Theta = 45$
$a =$	$b =$	$c = 2$	$\Theta = 60$
$a = 3$	$b =$	$c = 5$	$\sin\Theta =$
$a =$	$b = 3$	$c = 7$	$\cos\Theta =$
$a = 1$	$b = 2$	$c =$	$\sin\Theta =$
$a = 3$	$b = 4$	$c =$	$\cos\Theta =$
$a = 6$	$b =$	$c = 12$	$\sin\Theta =$
$a =$	$b = 2$	$c = 7$	$\cos\Theta =$
$a = 4$	$b = 5$	$c =$	$\sin\Theta =$
$a = 7$	$b = 7$	$c =$	$\cos\Theta =$