

問1 特別な角度の表を埋めなさい.

θ	0°	30°	45°	60°	90°	120°	135°	150°	180°
$\sin \theta$									
$\cos \theta$									
$\tan \theta$									

θ	210°	225°	240°	270°	300°	315°	330°
$\sin \theta$							
$\cos \theta$							
$\tan \theta$							

問2 次の問いに答えよ.

(1) θ が鋭角のとき, $\cos \theta = \frac{2\sqrt{3}}{5}$ のとき, $\sin \theta, \tan \theta$ を求めよ.

Ans. $\sin \theta$ _____, $\tan \theta$ _____

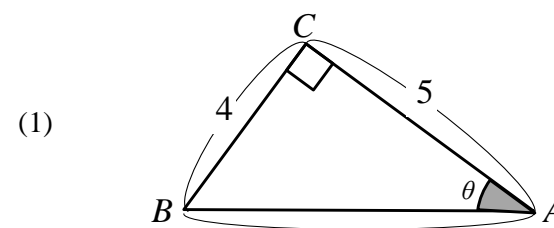
(2) θ が $0^\circ \leq \theta < 180^\circ$ のとき, $\sin \theta = \frac{2}{5}$ のとき, $\cos \theta, \tan \theta$ を求めよ.

Ans. $\cos \theta$ _____, $\tan \theta$ _____

(3) θ が鋭角のとき, $\tan \theta = 2\sqrt{2}$ のとき, $\sin \theta, \cos \theta$ を求めよ.

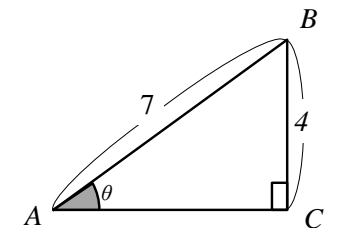
Ans. $\sin \theta$ _____, $\cos \theta$ _____

問3 直角三角形 ABC で, $\sin \theta, \cos \theta, \tan \theta$ を求めよ.



(1)

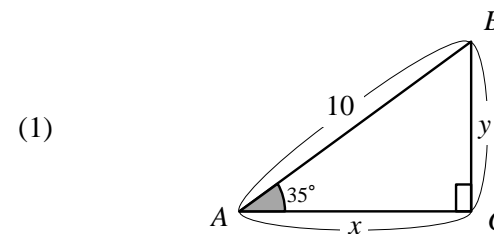
(2)



$\sin \theta =$ _____ $\cos \theta =$ _____ $\tan \theta =$ _____ $\sin \theta =$ _____ $\cos \theta =$ _____ $\tan \theta =$ _____

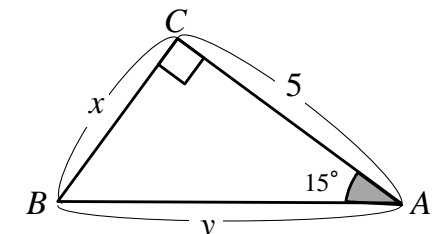
問4 次の表を元に x, y の値を求めよ.

15°	0.2588	0.9659	0.2679	35°	0.5736	0.8192	0.7002
------------	--------	--------	--------	------------	--------	--------	--------



(1)

(2)



$x =$ _____ $y =$ _____ $x =$ _____ $y =$ _____

問5 $0^\circ \leq \theta \leq 180^\circ$ の範囲で, 次の式を満たす θ の値を求めよ.

(1) $\sin \theta = 0$ $\theta =$ _____ (2) $\tan \theta = -\frac{\sqrt{3}}{2}$ $\theta =$ _____

(3) $\cos \theta = \frac{1}{2}$ $\theta =$ _____ (4) $\tan \theta = 1$ $\theta =$ _____

問6 次の2次関数のグラフと x 軸との共有点の個数を求めよ.

(1) $y = x^2 + 2x - 8$

(2) $y = 2x^2 - 4x + 5$

問7 次の2次不等式を解け.

(1) $y = x^2 - 3x + 10 \geq 0$

(2) $y = x^2 - 2x + 1 < 0$

(3) $y = -2x^2 + 3x - 4 > 0$

(4) $y = -2x^2 + 12x - 18 \geq 0$

(5) $y = 3x^2 + 5x + 4 < 0$

(6) $y = -x^2 + 10x - 25 \leq 0$

(7) $y = -x^2 + 2x - 4 > 0$

(8) $y = x^2 - 14x + 49 > 0$

問8 次の連立不等式を求めよ.

(1)
$$\begin{cases} x^2 - 4x + 2 > 0 \\ x^2 + 2x - 8 < 0 \end{cases}$$

(2)
$$\begin{cases} x^2 + 6x + 8 > 0 \\ x^2 + 2x - 3 < 0 \end{cases}$$

問9 2次関数 $y = -2x^2 + mx + m < 0$ の解が、すべての実数となるように、定数 m の値を求めよ.

問10 2次関数 $y = 3x^2 - 6x + m + 1$ の解が、 x 軸と異なる2点で交わる時の、定数 m の値を求めよ.