Graphs of Trigonometric Functions
Workout

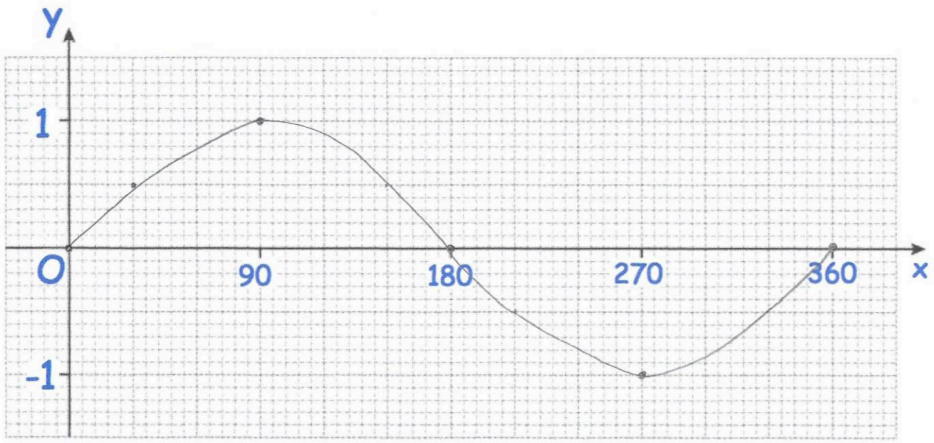
Question 1
(a)

x	0°	30°	45°	60°	90°	120°
y	0	$\frac{1}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{3}}{2}$	1	$\frac{\sqrt{3}}{2}$

x	135°	150°	180°	210°	225°	240°
y	$\frac{\sqrt{2}}{2}$	$\frac{1}{2}$	0	$-1/2$	$-\sqrt{2}/2$	$-\sqrt{3}/2$

x	270°	300°	315°	330°	360°
y	−1	$-\sqrt{3}/2$	$-\sqrt{2}/2$	$-\frac{1}{2}$	0

(b)



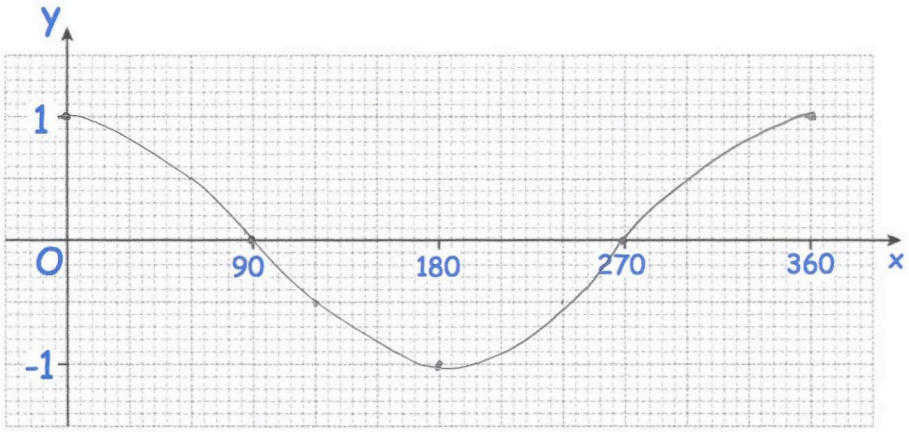
Question 2
(a)

x	0°	30°	45°	60°	90°	120°
y	1	$\frac{\sqrt{3}}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{1}{2}$	0	$-\frac{1}{2}$

x	135°	150°	180°	210°	225°	240°
y	$-\frac{\sqrt{2}}{2}$	$-\frac{\sqrt{3}}{2}$	−1	$-\frac{\sqrt{3}}{2}$	$-\frac{\sqrt{2}}{2}$	$-\frac{1}{2}$

x	270°	300°	315°	330°	360°
y	0	$\frac{1}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{3}}{2}$	1

(b)



Question 3
(a)

x	0°	1°	15°	30°	45°	60°
y	0	0·017	$2-\sqrt{3}$	$\frac{\sqrt{3}}{3}$	1	$\sqrt{3}$

x	75°	89°	90°	91°	105°	120°
y	$2+\sqrt{3}$	57·29	—	-57·29	$-2-\sqrt{3}$	$-\sqrt{3}$

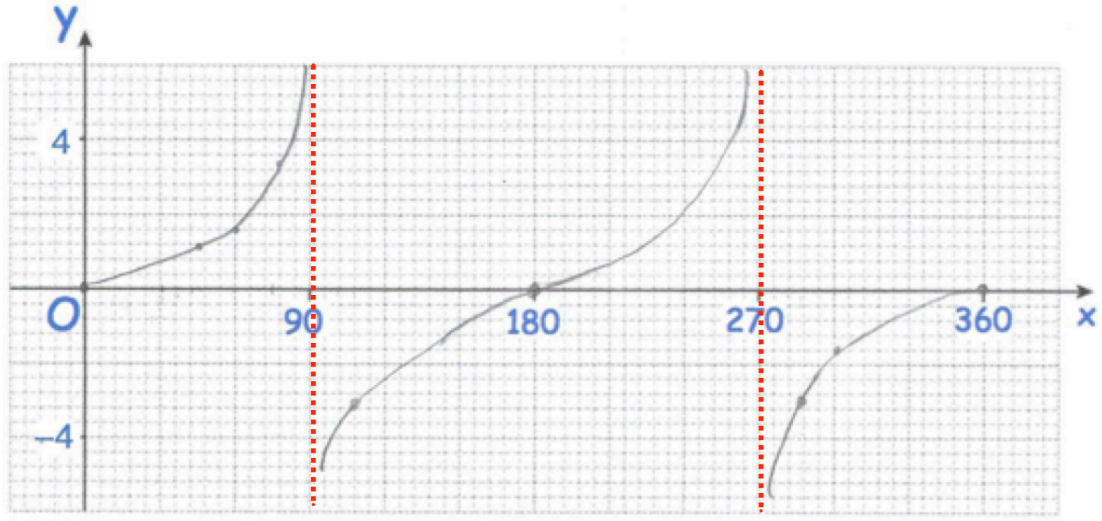
x	135°	150°	165°	179°	180°	181°
y	-1	$\frac{-\sqrt{3}}{3}$	$-2+\sqrt{3}$	-0·017	0	0·07

x	195°	210°	225°	240°	255°	269°
y	$2-\sqrt{3}$	$\frac{\sqrt{3}}{3}$	1	$\sqrt{3}$	$2+\sqrt{3}$	57·29

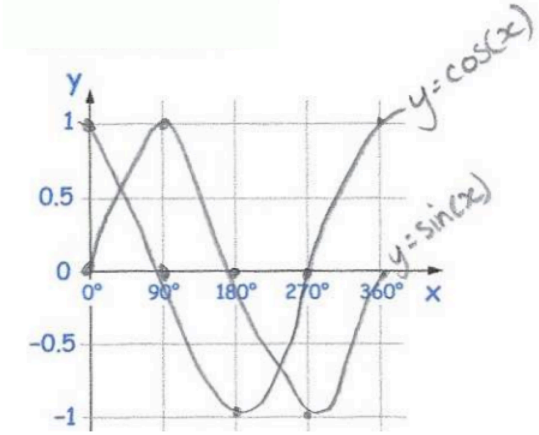
x	270°	271°	285°	300°	315°	330°
y	—	-57·29	$-2-\sqrt{3}$	$-\sqrt{3}$	-1	$-\frac{\sqrt{3}}{3}$

x	345°	360°
y	$-2+\sqrt{3}$	0

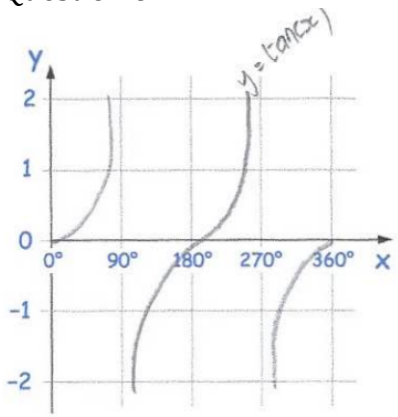
(b)



Question 4 & Question 5



Question 6



Apply

Question 1
1.2

Question 2
3

Question 3
(a) (90, 1)
(b) (270, -1)

Question 4
(a) (90, 0)
(b) (180, -1)

Question 5
(a) Graph 3
(b) Graph 2
(c) Graph 1

Question 6
(450, 1)

Question 7
(630, −1)

Question 8
(540, −1)

Question 9
(a) (-270, 0)
(b) (-180, -1)

Question 10
(a) x=330°
(b) x=30°, x=150°

Question 11
(a) 330°
(b) x=150° x=210°

Question 12
X=210°

Question 13
(a) x=42° x=318°
(b) x= 138° x=222°