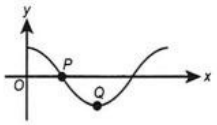
F5 Mathematics Chapter 6 Ratios and Graphs of Trigonometric Functions Practice 1.0

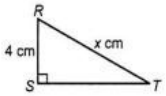
Part I

1. Rajah di bawah menunjukkan graf fungsi $y = \text{kos } x$ dan Q ialah titik minimum graf itu. Nyatakan sudut-sudut untuk titik-titik P dan Q.
Diagram shows the graph of function $y = \cos x$ and Q is the minimum point of the graph. State the angles for points P and Q.



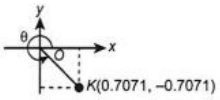
	Titik P *Point P*	Titik Q *Point Q*
A	30°	60°
B	45°	90°
C	60°	120°
D	90°	180°

2. Rajah di bawah menunjukkan sebuah segi tiga bersudut tegak RST.
The diagram below shows a right-angled triangle RST.



Diberi kos $\angle SRT = 0.5$. Hitung nilai x.
It is given that cos $\angle SRT = 0.5$. *Calculate the value of x.*
A 6 cm
B 8 cm
C 10 cm
D 12 cm

3. Rajah di bawah menunjukkan titik K yang diplot pada suatu satah Cartes.
The diagram below shows point K plotted on a Cartesian plane.



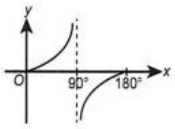
Cari nilai θ.
Find the value of θ.
A 290°
B 300°
C 315°
D 330°

4. Antara sudut yang berikut, yang mana satu tidak berada dalam sukuan IV?
Which of the following angles does not lie in quadrant IV?
A 268°
B 290°
C 306°
D 335°

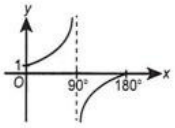
5. Diberi bahawa sin $y = -0.9063$ dan $90° \leqslant y \leqslant 270°$, cari nilai y.
Given that sin $y = -0.9063$ *and* $90° \leqslant y \leqslant 270°$, *find the value of y.*
A 215°
B 225°
C 245°
D 265°

6. Hitung nilai $\dfrac{\tan 45°}{\sin 30°} \times 2 \tan 60°$.
Calculate the value of $\dfrac{\tan 45°}{\sin 30°} \times 2 \tan 60°$.
A $\sqrt{3}$
B 2
C $2\sqrt{3}$
D $4\sqrt{3}$

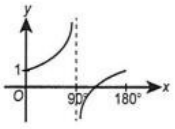
7. Graf yang manakah mewakili fungsi $y = \tan x + 1$?
Which of the following graphs represent the function $y = \tan x + 1$?
A



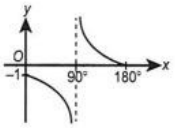
B



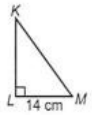
C



D



8. Rajah di bawah menunjukkan satu segi tiga bersudut tegak *KLM*.
The diagram below shows that a right-angled triangle KLM.



Nisbah sudut *M* kepada sudut *K* adalah 3 : 2. Cari panjang *KL*.
The ratio of angle M to angle K is 3 : 2. *Find the length of KL.*

A 8.229 cm
B 10.17 cm
C 11.33 cm
D 19.27 cm

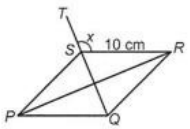
9. Diberi bahawa sin t = sin 26° dan $90° \leqslant t \leqslant 270°$, cari nilai t.
Given that sin t = sin 26° *and* $90° \leqslant t \leqslant 270°$, *find the value of t.*

A 26
B 116
C 154
D 206

10. Diberi bahawa tan $x = \frac{5}{12}$ bagi $180° \leqslant x \leqslant 270°$. Cari nilai kos x + sin x.
It is given that tan $x = \frac{5}{12}$ *for* $180° \leqslant x \leqslant 270°$. *Find the value of* cos x + sin x.

A $\frac{12}{5}$
B $-\frac{17}{13}$
C $-\frac{12}{13}$
D $-\frac{5}{13}$

11. Rajah di bawah menunjukkan sebuah rombus *PQRS* dan *QST* ialah garis lurus.
The diagram below shows a rhombus PQRS and QST is a straight line.



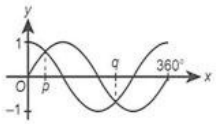
Panjang *SR* dan *QS* masing-masing ialah 10 cm dan 12 cm. Nyatakan nilai tan x.
The length of SR and QS are 10 cm *and* 12 cm *respectively. State the value of* tan x.

A $-\frac{4}{3}$
B $-\frac{4}{5}$
C $-\frac{3}{4}$
D $-\frac{3}{5}$

12. Cari nilai $\sqrt{2}$ kos 45° + 8 sin 30°.
Find the value of $\sqrt{2}$ cos 45° + 8 sin 30°.

A 2
B 3
C 4
D 5

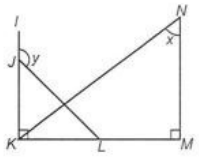
13. Rajah di bawah menunjukkan graf fungsi y = sin x dan y = kos x bagi $0° \leqslant x \leqslant 360°$.
The diagram below shows the graphs of the functions y = sin x *and* y = cos x *for* $0° \leqslant x \leqslant 360°$.



Cari nilai $2q - 3p$.
Find the value of $2q - 3p$.

A 265°
B 315°
C 320°
D 345°

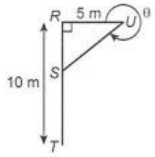
14. Rajah di bawah menunjukkan dua segi tiga bersudut tegak *JKL* dan *KMN*. *IJK* dan *KLM* ialah garis lurus.
The diagram below shows two right-angled triangles, JKL and KMN. IJK and KLM are straight lines.



Diberi bahawa sin $x = \frac{4}{5}$, KN = 30 cm, $JK = \frac{2}{3}MN$ dan $KL = LM$. Hitung nilai tan y.
It is given that sin $x = \frac{4}{5}$, KN = 30 cm, $JK = \frac{2}{3}MN$ *and* $KL = LM$. *Calculate the value of* tan y.

[3 markah / 3 *marks*]

15. Rajah di bawah menunjukkan sebatang tiang dengan bendera yang berbentuk segi tiga bersudut tegak. Tinggi tiang itu ialah 10 m. UR = 5 m dan $ST = \frac{3}{5}RT$.
The diagram below shows a pole with a flag in the shape of a right-angled triangle. The pole is 10 m *in height.* UR = 5 m *and* $ST = \frac{3}{5}RT$.



Cari kos θ.
Find cos θ.

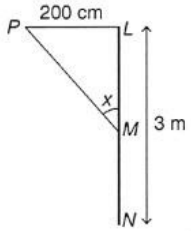
[3 markah / 3 *marks*]

Part II

6.1 Nilai Sinus, Kosinus dan Tangen bagi Sudut θ, $0° \leq \theta \leq 360°$

The Value of Sine, Cosine and Tangent for Angle θ, $0° \leq \theta \leq 360°$

1 Rajah 1 menunjukkan sebatang tiang bendera.
Diagram 1 shows a flag pole.



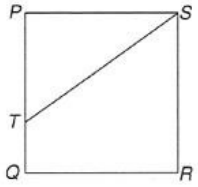
Rajah 1/*Diagram 1*

M ialah titik tengah tiang itu. Panjang *PL* ialah 200 cm. Cari nilai kos *x*.
M is the midpoint of the pole. The length of PL is 200 cm. Find the value of cos x.

A $\frac{3}{4}$ **C** $\frac{4}{5}$

B $\frac{3}{5}$ **D** $\frac{4}{3}$

2 Rajah 2 menunjukkan sebuah segi empat sama *PQRS*.
Diagram 2 shows a square PQRS.



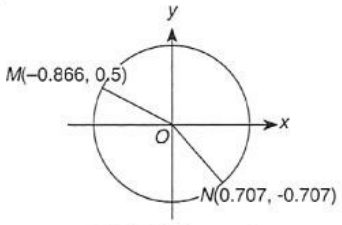
Rajah 2/*Diagram 2*

Diberi bahawa *PT* : *TQ* = 3 : 1, cari nilai kos ∠*STQ*.
Given that PT : TQ = 3 : 1, find the value of cos ∠STQ.

A $\frac{3}{5}$ **C** $-\frac{3}{5}$

B $\frac{4}{5}$ **D** $-\frac{4}{5}$

3 Rajah 3 menunjukkan sebuah bulatan unit.
Diagram 3 shows a unit circle.



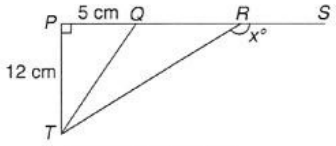
Rajah 3/*Diagram 3*

Cari nilai sudut bagi sektor minor *MON*.
Find the value of the angle of the minor sector MON.

A 150° **C** 155°

B 165° **D** 195°

4 Dalam Rajah 4, *PQRS* merupakan suatu garis lurus.
In Diagram 4, PQRS is a straight line.



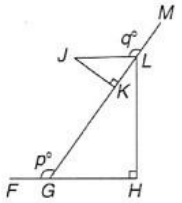
Rajah 4/*Diagram 4*

Diberi *TQ* = *QR*, cari nilai tan *x*°.
Given that TQ = QR, find the value of tan x°.

A $\frac{3}{2}$ **C** $-\frac{3}{2}$

B $\frac{2}{3}$ **D** $-\frac{2}{3}$

5 Dalam Rajah 5, *GKLM* dan *FGH* ialah garis lurus.
In Diagram 5, GKLM and FGH are straight lines.



Rajah 5/*Diagram 5*

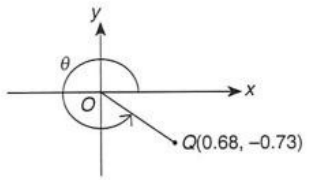
Diberi bahawa *GK* = 18 cm, *JL* = 10 cm, *GH* = 14 cm dan kos $p° = -\frac{7}{12}$. Cari nilai bagi sin *q*°.

Given that GK = 18 cm, JL = 10 cm, GH = 14 cm and $\cos p° = -\frac{7}{12}$. *Find the value of* $\sin q°$.

A $\frac{4}{5}$ **C** $-\frac{4}{5}$

B $\frac{3}{5}$ **D** $-\frac{3}{5}$

6 Rajah 6 menunjukkan titik Q diplot pada suatu satah Cartes.
Diagram 6 shows point Q plotted on a Cartesian plane.



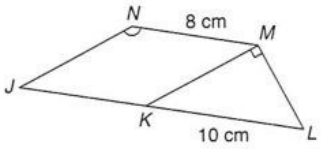
Rajah 6/*Diagram 6*

Cari nilai θ.
Find the value of θ.

A 286° **C** 317°

B 313° **D** 330°

7 Dalam Rajah 7, *JKL* ialah garis lurus dan *JKMN* ialah sebuah rombus.
In Diagram 7, JKL is a straight line and JKMN is a rhombus.



Rajah 7/*Diagram 7*

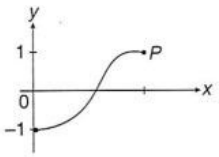
Cari nilai bagi tan $\angle JNM$.
Find the value of tan $\angle JNM$.

A −0.8 **C** 0.75

B −0.75 **D** 0.8

6.2 Graf Fungsi Sinus, Kosinus dan Tangen
The Graphs of Function of Sine, Cosine and Tangent

8 Rajah 8 menunjukkan sebahagian daripada graf $y = -\text{kos } x$.
Diagram 8 shows a part of the graph of $y = -\cos x$.



Rajah 8/*Diagram 8*

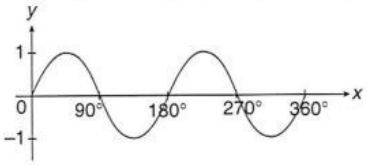
Cari koordinat P.
Find the coordinates of P.

A (90°, 1) **C** (270°, 1)

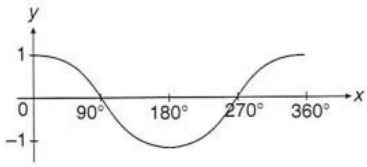
B (180°, 1) **D** (360°, 1)

9 Antara graf berikut, yang manakah mewakili $y = \sin 2x$?
Which of the following graphs represents $y = \sin 2x$?

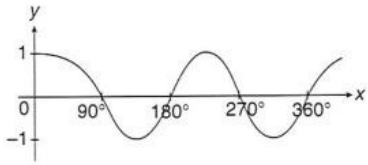
A



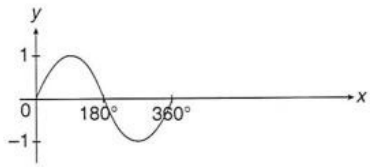
B



C

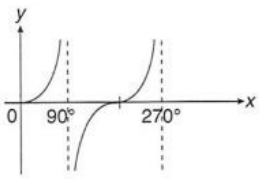


D

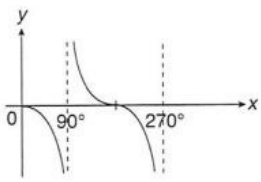


10 Graf manakah yang mewakili $y = -\tan x$?
Which graph represents $y = -\tan x$?

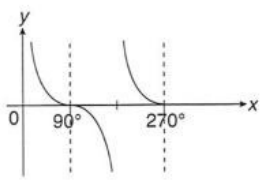
A



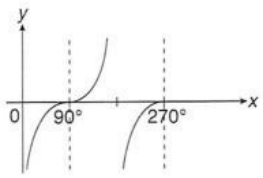
B



C

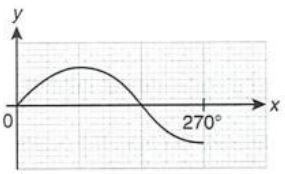


D

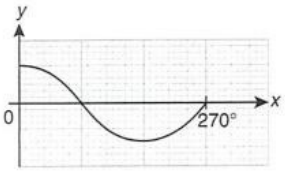


11 Graf manakah yang mewakili y = kos x bagi $0° \leqslant x \leqslant 270°$?
Which graph represents $y = \cos x$ for $0° \leqslant x \leqslant 270°$?

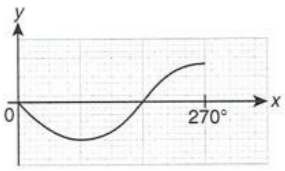
A



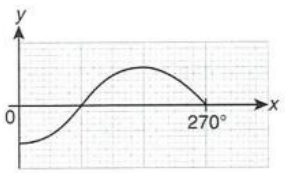
B



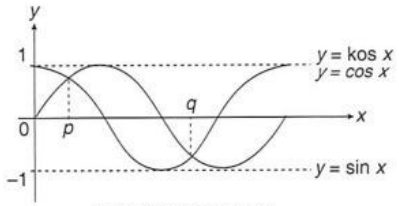
C



D



12 Rajah 9 menunjukkan graf $y = \sin x$ dan $y = \text{kos } x$.
Diagram 9 shows the graphs $y = \sin x$ and $y = \cos x$.

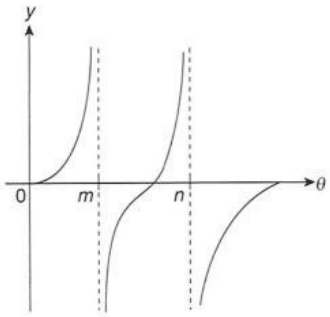


Rajah 9/*Diagram 9*

Nyatakan nilai p dan q. KBAT Menganalisis
State the value of p and of q.

A $p = 30°, q = 210°$ **C** $p = 45°, q = 225°$
B $p = 40°, q = 220°$ **D** $p = 50°, q = 230°$

13 Rajah 10 menunjukkan graf $y = \tan \theta$.
Diagram 10 shows the graph of $y = \tan \theta$.



Rajah 10/*Diagram 10*

Cari nilai bagi $n - m$. KBAT Menilai
Find the value of $n - m$.

A 45° **C** 135°
B 90° **D** 180°