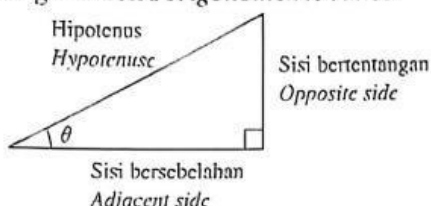


Nisbah Trigonometri Trigonometric Ratios

Nota Progresif

Nisbah trigonometri/Trigonometric ratios



Nisbah sinus/Sine ratio

$$\sin \theta = \frac{\text{Sisi bertentangan/Opposite side}}{\text{Hipotenusa/Hypotenuse}}$$

$$\sin 0^\circ = 0; \sin 90^\circ = 1$$

Nisbah kosinus/Cosine ratio

$$\cos \theta = \frac{\text{Sisi bersebelahan/Adjacent side}}{\text{Hipotenusa/Hypotenuse}}$$

$$\cos 0^\circ = 1; \cos 90^\circ = 0$$

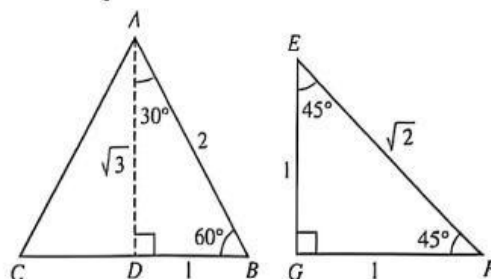
Nisbah tangen/Tangent ratio

$$\tan \theta = \frac{\text{Sisi bertentangan/Opposite side}}{\text{Sisi bersebelahan/Adjacent side}}$$

$$\tan 0^\circ = 0; \tan 90^\circ = \infty$$

Apabila saiz bagi satu sudut tirus, θ bertambah
When the size of an acute angle, θ increases

- nilai bagi $\tan \theta$ dan $\sin \theta$ bertambah.
the values of $\tan \theta$ and $\sin \theta$ increases.
- nilai bagi $\cos \theta$ berkurang.
the values of $\cos \theta$ decreases.



θ	Sudut khas/Special angles		
	30°	45°	60°
$\tan \theta$	$\frac{1}{\sqrt{3}}$	1	$\sqrt{3}$
$\sin \theta$	$\frac{1}{2}$	$\frac{1}{\sqrt{2}}$	$\frac{\sqrt{3}}{2}$
$\cos \theta$	$\frac{\sqrt{3}}{2}$	$\frac{1}{\sqrt{2}}$	$\frac{1}{2}$

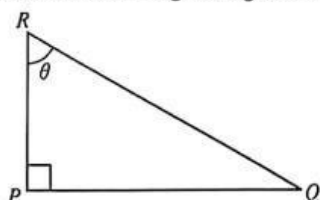
Bahagian A

5.1 Sinus, Kosinus dan Tangen bagi Sudut Tirus dalam Segi Tiga Bersudut Tegak

Sine, Cosine and Tangent of Acute Angles in Right-angled Triangles

- 1 Rajah menunjukkan sebuah segi tiga bersudut tegak.

The diagram shows a right-angled triangle.



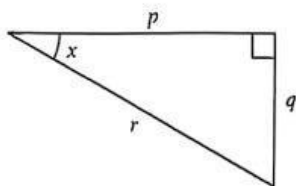
Antara berikut, yang manakah adalah betul bagi nama sisi segi tiga bersudut tegak itu?

Which of the following is correct names of the sides of the right-angled triangle?

	Sisi bertentangan Opposite side	Sisi bersebelahan Adjacent side	Hipotenusa Hypotenuse
A	PQ	QR	PR
B	PQ	PR	QR
C	PR	PQ	QR
D	QR	PR	PQ

- 2 Rajah menunjukkan sebuah segi tiga bersudut tegak.

The diagram shows a right-angled triangle.



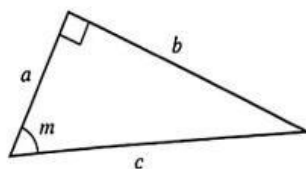
Cari nilai $\sin x$.

Find the value of $\sin x$.

- A $\frac{p}{q}$ C $\frac{q}{r}$
B $\frac{q}{p}$ D $\frac{p}{r}$

- 3 Rajah menunjukkan sebuah segi tiga bersudut tegak.

The diagram shows a right-angled triangle.



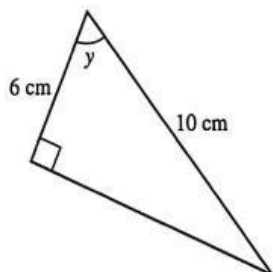
Hitung nilai $\cos m$.

Calculate the value of $\cos m$.

- A $\frac{b}{a}$ C $\frac{a}{c}$
B $\frac{a}{b}$ D $\frac{b}{c}$

- 4 Rajah menunjukkan sebuah segi tiga bersudut tegak.

The diagram shows a right-angled triangle.



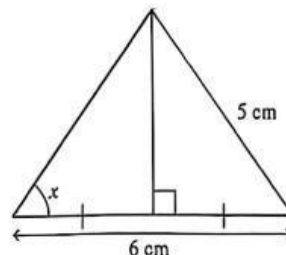
Cari nilai $\tan y$.

Find the value of $\tan y$.

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

- 5 Rajah menunjukkan dua segi tiga bersudut tegak bersebelahan.

The diagram shows two right-angled triangles side by side.



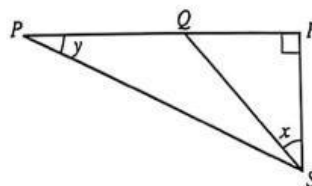
Cari nilai $\sin x$.

Find the value of $\sin x$.

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

- 6 Dalam rajah, PQR adalah garis lurus.

In the diagram, PQR is a straight line.



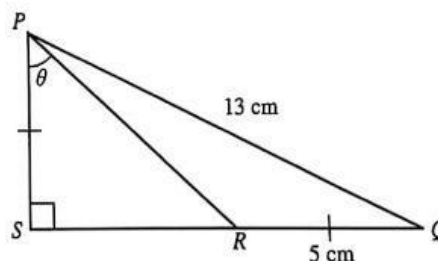
Diberi bahawa $\sin x = 0.6$ dan $PQ = QS$, hitung nilai $\tan y$.

It is given that $\sin x = 0.6$ and $PQ = QS$, calculate the value of $\tan y$.

- A 2 C $\frac{3}{4}$
B $\frac{4}{3}$ D $\frac{1}{2}$

- 7 Dalam rajah, QRS ialah suatu garis lurus.

In the diagram, QRS is a straight line.

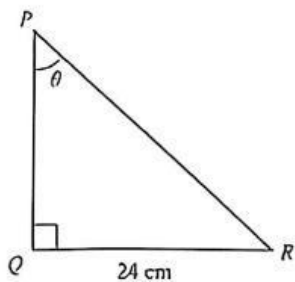


Hitung nilai $\tan \theta$.

Calculate the value of $\tan \theta$.

- A $\frac{7}{5}$ C $\frac{5}{13}$
B $\frac{12}{5}$ D 1

- In the diagram, PQR is right-angled triangle.

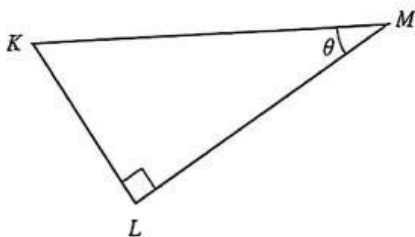


Diberi $\tan \theta = \frac{12}{5}$, cari nilai PR .

Given $\tan \theta = \frac{12}{5}$, find the value of PR .

- | | |
|----------|-------|
| A | 10 cm |
| B | 25 cm |
| C | 26 cm |
| D | 30 cm |

- The diagram shows a right-angled triangle.



Diberi bahawa $\sin \theta = \frac{7}{25}$, cari nilai bagi $\tan (90^\circ - \theta)$.

It is given that $\sin \theta = \frac{7}{25}$, find the value of $\tan (90^\circ - \theta)$.

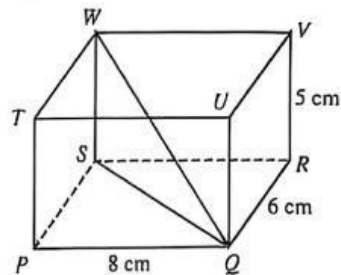
- A** $\frac{7}{24}$ **C** $\frac{25}{24}$
B $\frac{24}{25}$ **D** $\frac{24}{7}$

- 10 Diberi $\sin x = \frac{3}{5}$ dan $\cos x = \frac{4}{5}$. Cari nilai $\tan x$.

Given $\sin x = \frac{3}{5}$ and $\cos x = \frac{4}{5}$. Find the value of $\tan x$.

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

- The diagram shows a cuboid.



Hitung nilai $\angle WQS$.

Calculate the value of $\angle WQS$.

- A 25° C 32°
B 26.57° D 63.43°

- REBAY** 2.2 m bersandar pada dinding menegak.

The diagram shows a ladder of length 2.2 m leaning on a vertical wall.



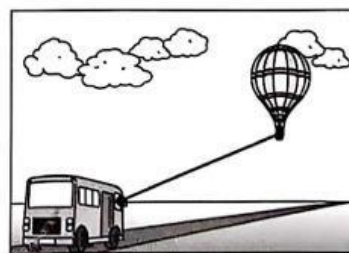
Jika panjang bayang tangga di atas lantai mengufuk adalah 0.8 m, cari sudut kecondongan tangga itu.

If the length of shadow of the ladder on a horizontal floor is 0.8 m, find the angle of inclination of the ladder.

- A** $19^{\circ} 59'$
B $21^{\circ} 19'$
C $68^{\circ} 41'$
D $70^{\circ} 1'$

- KBAT** dan sebuah bas.

The diagram shows a hot air balloon and a bus.

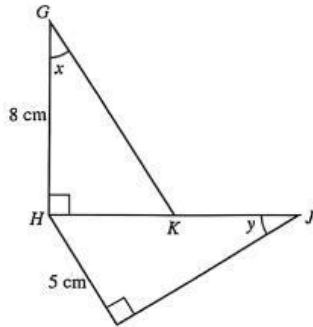


Sudut tunduk pemandu bas dari seorang lelaki di atas belon ialah 28° dan jarak di antara mereka adalah 250 m. Cari tinggi dalam m, belon itu.

The angle of depression of the bus driver from the man on the balloon is 28° and the distance between them is 250 m. Find the height, in m, of the balloon.

- A 117.4 C 220.7
B 132.9 D 532.5

- 14 Dalam rajah, HKJ ialah garis lurus.
In the diagram, HKJ is a straight line.

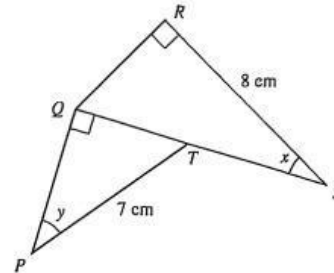


Diberi $\sin x = \frac{3}{5}$ dan $\tan y = \frac{5}{12}$. Cari panjang KJ , dalam cm.

Given that $\sin x = \frac{3}{5}$ and $\tan y = \frac{5}{12}$. Find the length of KJ , in cm.

- A 6
B 7
C 10
D 13

- 15 Dalam rajah, QTS ialah suatu garis lurus.
In the diagram, QTS is a straight line.



Diberi bahawa $\tan x = \frac{3}{4}$ dan T ialah titik tengah garis QS . Cari $\sin y$.

Given that $\tan x = \frac{3}{4}$ and T is the midpoint of the line QS . Find $\sin y$.

- A $\frac{5}{7}$ C $\frac{3}{5}$
B $\frac{6}{7}$ D $\frac{4}{5}$