

MAHIR DIRI

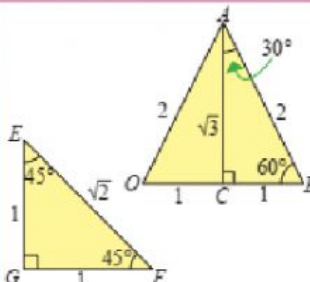
1. Hitung nilai operasi berikut tanpa menggunakan kalkulator.

(a) $8 \sin 60^\circ - 3 \tan 60^\circ$

(b) $(\tan 30^\circ)(2 \cos 30^\circ) + 6 \sin 30^\circ$

(c) $(8 \cos 45^\circ)(\sin 60^\circ) + (8 \sin 45^\circ)(\cos 30^\circ)$

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



(b) $(\tan 30^\circ)(2 \cos 30^\circ) + 6 \sin 30^\circ$

$$= \left(\frac{1}{\sqrt{3}}\right) \left(2 \left(\frac{\sqrt{3}}{2}\right)\right) + 6 \left(\frac{1}{2}\right)$$

$$= \boxed{}$$

$$= \boxed{}$$

(a) $8 \sin 60^\circ - 3 \tan 60^\circ$

$$= 8 \left(\frac{\sqrt{3}}{2}\right) - 3(\sqrt{3})$$

$$= 4\sqrt{3} - 3\sqrt{3}$$

$$= \sqrt{3} (\boxed{})$$

$$= \sqrt{3}$$

(c) $(8 \cos 45^\circ)(\sin 60^\circ) + (8 \sin 45^\circ)(\cos 30^\circ)$

$$= \boxed{} \left(\frac{1}{\sqrt{2}}\right) \left(\frac{\sqrt{3}}{2}\right) + \boxed{} \left(\frac{1}{\sqrt{2}}\right) \left(\frac{\sqrt{3}}{2}\right)$$

$$= 4 \left(\frac{\sqrt{3}}{\sqrt{2}}\right) + 4 \left(\frac{\sqrt{3}}{\sqrt{2}}\right)$$

$$= \boxed{} \left(\frac{\sqrt{3}}{\sqrt{2}}\right)$$

2. Rajah di sebelah menunjukkan segi tiga bersudut tegak PRS .

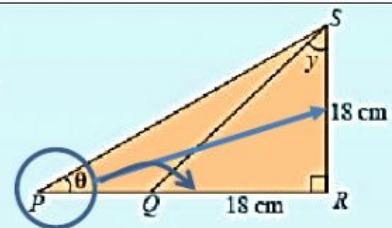
PQR ialah garis lurus. Diberi bahawa $QR = RS = 18$ cm dan

$\tan \theta = \frac{3}{5}$. Hitung

(a) panjang PQ , dalam cm

(b) panjang PS , dalam cm, betul kepada integer terdekat

(c) nilai y



(a) $\tan \theta = \frac{3}{5} = \frac{r}{s}$ (rujuk segi tiga PSR)

$$\tan \theta = \frac{SR}{PR} = \frac{3}{5}$$

$$\boxed{} = \frac{3 \times 6}{5 \times 6}$$

$$PR = \boxed{} \rightarrow PR = PQ + 18$$

$$PQ = 30 - 18 = \boxed{} \text{ cm}$$

(b) $PS \rightarrow$ HIPOTENUS

Gunakan Teorem Pythagoras

$$PS = \sqrt{SR^2 + PR^2}$$

$$PS = \sqrt{\boxed{}^2 + \boxed{}^2}$$

$$PS = \boxed{} \text{ cm} \rightarrow \text{integer terdekat}$$

(c) $\tan y = \frac{18}{18}$

$$\tan y = \boxed{}$$

$$y = \tan^{-1} \boxed{}$$

$$y = \boxed{}^\circ$$