TINGKATAN 3

BAB 5

Praktis Sumatif

Bahagian A

1 $\kos y = \frac{4}{5} = \frac{ST}{35}$

$ST = \frac{4}{5} \times 35 = 28 \text{ cm}$

$RS = \sqrt{35^2 - 28^2} = 21 \text{ cm}$

$\tan y = \frac{RS}{ST}$

$= \frac{21}{28}$

$= \frac{3}{4}$

Jawapan: **C**

2 $4 \kos^2 45° + 5 \tan^2 60° = 4\left(\frac{\sqrt{2}}{2}\right)^2 + 5(\sqrt{3})^2$

$= 4\left(\frac{2}{4}\right) + 5(3)$

$= 17$

Jawapan: **D**

3 $\tan x = \frac{A}{4} = 2 \rightarrow A = 8$

$\kos y = \frac{\text{panjang sisi bersebelahan}}{18} = 0.6$

Panjang sisi bersebelahan $= 0.6(18) = 10.8$

Panjang sisi bertentangan $= \sqrt{18^2 - 10.8^2}$

$= 14.4$

$P = 14.4 - 8$

$= 6.4 \text{ cm}$

Jawapan: **B**

4 $\sin a = \frac{\text{panjang sisi bertentangan}}{15} = 0.6$

Panjang sisi bertentangan $= 15(0.6) = 9 \text{ cm}$

Panjang sisi bersebelahan $= \sqrt{15^2 - 9^2}$

$= 12 \text{ cm}$

Panjang hipotenus segi tiga yang satu lagi

$= \sqrt{5^2 + 12^2} = 13 \text{ cm}$

$\kos b = \frac{12}{13}$

Jawapan: **A**

5 $\sin x = \frac{\sqrt{2}}{2}$

$x = 45°$

$= \kos x$

$\kos (90° - x) = \kos x$

Jawapan: **B**

6 $\tan \theta = \frac{5}{12} = \frac{QR}{24}$

$QR = 10 \text{ cm}$

$QS = \sqrt{10^2 + 24^2}$

$= 26 \text{ cm}$

$= PQ$

$PR = QR + PQ$

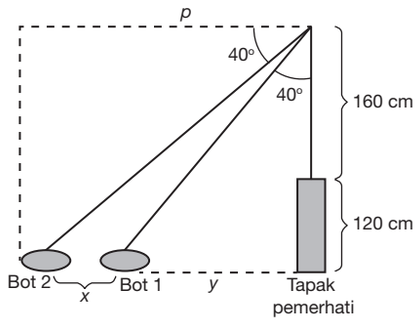
$= 10 + 26$

$= 36 \text{ cm}$

$PS = \sqrt{36^2 + 24^2} = 43.3$

Jawapan: **D**

7



$\tan 40° = \frac{280}{p}$

$p = \frac{280}{\tan 40°} = 333.69 \text{ cm}$

$\tan 40° = \frac{y}{280}$

$y = 280 (\tan 40°) = 234.95 \text{ cm}$

Jarak antara dua bot, $x = 333.69 - 234.95$

$= 98.7 \text{ cm}$

Jawapan: **C**

8 $\kos \angle QPR = \frac{15}{17} = \frac{15}{PQ}$

$PQ = 17 \text{ m}$

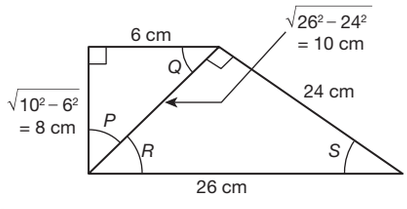
$QR = \sqrt{17^2 - 15^2} = 8 \text{ m}$

$QT = \sqrt{15^2 + 20^2} = 25 \text{ m}$

$\kos \theta = \frac{QS}{QT} = \frac{20}{25} = \frac{4}{5}$

Jawapan: **B**

9



$\kos P = \frac{8}{10} = 0.8$

Jawapan: **A**

10 $\tan x = \frac{4}{3} = \frac{8}{AP}$

$AP = 8 \times \frac{3}{4} = 6 \text{ cm}$

$AQ = \sqrt{8^2 + 6^2} = 10 \text{ cm}$

$\tan x = \frac{4}{3} = \frac{12}{AB}$

$AB = 12 \times \frac{3}{4} = 9 \text{ cm}$

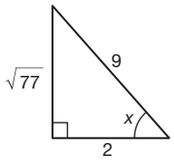
$AC = \sqrt{9^2 + 12^2} = 15 \text{ cm}$

$QC = 15 - 10 = 5 \text{ cm}$

Jawapan: **A**

Bahagian B

1 (a)



(i) $\tan x = \frac{\sqrt{77}}{2}$

(ii) $\sin x = \frac{\sqrt{77}}{9}$

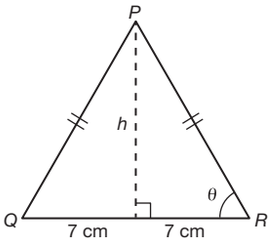
(b) (i) $\frac{\sin x}{\text{kos } x} = \tan x$

Palsu

(ii) Benar

Bahagian C

1 (a)



(i) $\text{kos } \theta = \frac{1}{3} = \frac{7}{PR}$

$PR = 21$ cm

$h = \sqrt{21^2 - 7^2}$

$= \sqrt{392}$

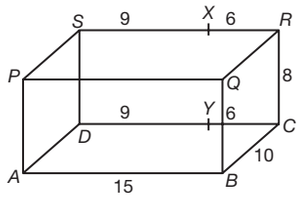
$= \sqrt{196(2)}$

$= 14\sqrt{2}$ cm

(ii) $\tan \theta = \frac{h}{7}$

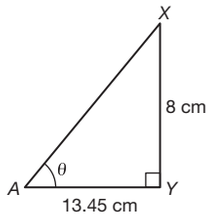
$= \frac{14\sqrt{2}}{7} = 2\sqrt{2}$

(b)



(i) $AY = \sqrt{9^2 + 10^2} = 13.45$ cm

(ii) Sudut antara garis AX dan $AY = \angle XAY$



$\tan \theta = \frac{8}{13.45} = 0.595$

$\theta = \tan^{-1} 0.595$

$= 30.8°$

(c) (i) $\sin 58° = \frac{250}{x}$

$x = \frac{250}{\sin 58°} = 294.8$ cm

(ii) $\tan 58° = \frac{250}{y}$

$y = \frac{250}{\tan 58°} = 156.2$ cm

Tinggi dinding

$= 156.2$ cm $+ 100$ cm

$= 256.2$ cm