TEST 4

1) $a = 6$

$n(\text{kumpulan}) = 5$ (tak)

esas penyat $= \frac{2\pi}{6} = \frac{\pi}{3}$

$\frac{\pi}{3}, \frac{2\pi}{3}, \frac{3\pi}{3}$

3 tane (C)

2) $a = \tan 37^\circ < 1$

$b = \tan 55^\circ > 1$

$c = \sin 25^\circ < 1$

$d = \sin 37^\circ < 1$

$b > a > d > c$

(B)

3) $S_x C_y + S_x S_y + C_x C_y + C_x S_y = \frac{2}{3}$

$\sin(x+y) + \cos(x-y) = \frac{2}{3}$

$\frac{1}{6}$? (2)

$\cos(x-y) = \frac{3}{6} = \frac{1}{2}$ (E)

4) $\cot\frac{3\pi}{4} = \frac{2x+y}{x-y}$

$-1 = \frac{2x+y}{x-y}$

$2x+y = -x+y$

$3x = 0$

$x = 0$

$\arcsin(1) = \alpha$

$\sin\alpha = 1$

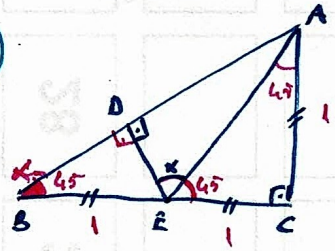
$\alpha = \frac{\pi}{2}$ (E)

5) $\tan 2a = \tan(2a+a) = \frac{t_{2a} + t_a}{1 - t_{2a}.t_a}$

$t_{3a} - t_{3a}.t_{2a}.t_a = t_{2a} + t_a$

$\frac{t_{3a} - t_{3a} + t_{3a}.t_{2a}.t_a}{t_{3a}.t_{2a}} = t_a$ (A)

6)



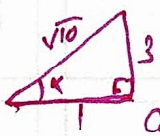
$40 + (\alpha - 45) = \alpha + 45^\circ$

$\tan(\alpha - 45) = \frac{1}{2}$

$\frac{t_\alpha - 1}{1 + t_\alpha} = \frac{1}{2}$

$2t - 2 = 1 + t$

$t = 3$



$\cos\alpha = \frac{1}{\sqrt{10}}$ (C)

7) $\frac{s}{c} + \frac{c}{s} = \frac{s^2+c^2}{s.c} = \frac{1}{s.c}$

$\frac{\frac{1}{s.c}}{\frac{c}{s}} = \frac{2}{3.s} \Rightarrow 2c^2 = 3s$

$2(1-s^2) = 3s$

$2 - 2s^2 = 3s$

$2s^2 + 3s - 2 = 0$

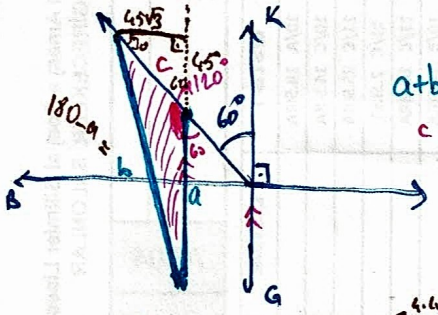
$2s \quad -1$

$s \quad +2$

$\sin x = \frac{1}{2}$

$\cos 30^\circ = \frac{\sqrt{3}}{2}$ (E)

8)



$a+b = 3.60 = 180$ km

$c = 3.30 = 90$ km

$(45\sqrt{3})^2 + (45+a)^2 = (180-a)^2$

$3.45^2 + 45^2 + 90.a + a^2 = 16.45^2 - 360a + a^2$

$450a = 12.45^2$

$10a = 12.45$

$a = 54$ (B)

9) $\cos 75^\circ + \cos 15^\circ = cc - ss + cc + ss$

$(45+30) \quad (45-30)$

$= 2.c.c_{45\ 30} = \ldots$

$c_{15} - c_{75} = cc + ss - cc + ss$

$(45-30) \quad (45+30)$

$= 2.s.s_{45\ 30} = \ldots$

$\cot 30 = \sqrt{3}$ (B)

10) $y = -\cot 10 . +\cot 50 , -\cot 30$

$y = \cot 10 . \cot 50 . \sqrt{3}$

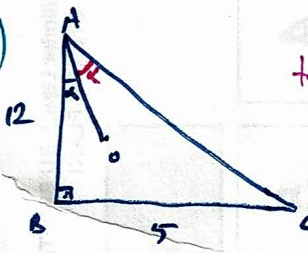
$x = \tan 10 . \tan 50 . \sqrt{3}$

$x.y = 1.1.3$

$x.y = 3$

$y = \frac{3}{x}$ (D)

11)



$\tan 2\alpha = \frac{5}{12}$

$\frac{2t}{1-t^2} = \frac{5}{12}$

$24t = 5 - 5t^2$

$5t^2 + 24t - 5 = 0$

$5t \quad -1$

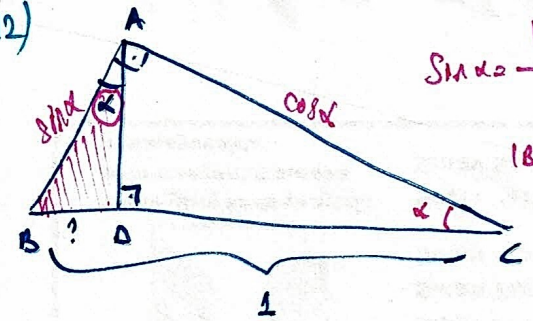
$t \quad +5$

$t_\alpha = \frac{1}{5}$

$t_\alpha = -5$

(B)

12)



$\sin\alpha = \frac{|BD|}{\sin\alpha}$

$|BD| = \sin^2\alpha$

(C)

13)

$53° \dots = \alpha$

$126° \dots = \beta$

$180° = \alpha + \beta$

$\tan\beta = -\tan\alpha$ ve $\cos\alpha = m$

$= -\frac{\sqrt{1-m^2}}{m}$

(C)