



SPTA

N5 Homework

Trig Eq & Ident (B)



Show all working –Calculator allowed.

Marks

1. Solve the following trigonometric equations for $0^\circ \leq x^\circ \leq 360^\circ$

a) $7 \cos x^\circ - 2 = 3$

(b) $3 \tan x^\circ + 7 = 2$

(6)

2. Prove that $\sin^3 x^\circ + \sin x^\circ \cos^2 x^\circ = \sin x^\circ$

(2)

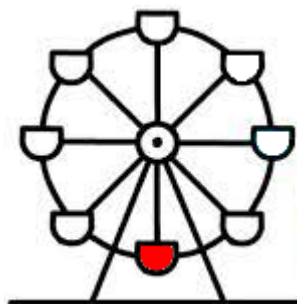
3. Show clearly that $\sin x^\circ \tan x^\circ = \frac{1 - \cos^2 x}{\cos x}$

(2)

4. At the carnival, the height, H metres, of a carriage on the big wheel above the ground is given by the formula

$$H = 10 + 5 \sin t^\circ$$

t seconds after starting to turn.



- a) Find the height of the carriage above the ground after 8 seconds.

(2)

- b) Find the two times during the first turn of the wheel when the carriage is 12.5 metres above the ground.

(4)

Total Marks: 16