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National 5 Mathematics

Exam Questions by Topic

Trig Equations & Trig Identities

Step-by-step worked solutions to these questions in the N5 Maths Study Pack

2014 N5 Past Paper P2, Q12

1. Solve the equation $11cos\ x° - 2 = 3$, for $(0 \leq x \leq 360°)$ (3 marks)

N5 Past Practice A Paper P2, Q9

2. (a) Solve the equation $4\ tanx° + 5 = 0, \quad 0 \leq x \leq 360°$ (3 marks)

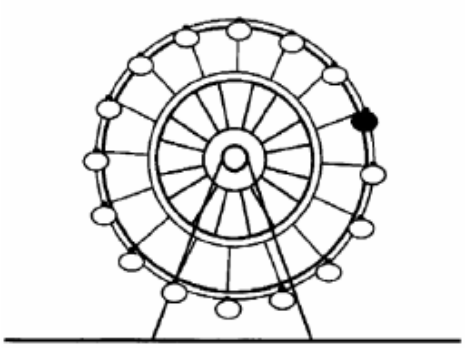
(b) Show that $\tan x \cos x = \sin x$ (2 marks)

N5 Past Practice B Paper P2, Q12

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

$H(t) = 10 + 5 \sin t^0$,

t seconds after starting to turn.



(a) Find the height of the carriage above the ground after 10 seconds. (2 marks)

(b) Find the two times during the first turn of the wheel when the carriage is 12.5 metres above the ground. (4 marks)

N5 Past Practice C Paper P2, Q11

4. (a) Solve the equation

$2tan\ x° + 7 = 0 \qquad 0 \leq x \leq 360°$ (3 marks)

(b) Prove that

$sin^3x + sinxcos^2x = sinx$ (2 marks)

N5 Past Practice D Paper P2, Q3

5. Solve algebraically the equation

$4sin\ x° + 1 = -2 \qquad (0 \leq x \leq 360)$ (3 marks)

N5 Past Practice E Paper P2, Q11

6. (a) Solve algebraically the equation

$\sqrt{3}sin\ x° - 1 = 0 \qquad 0 \leq x \leq 360$ (3 marks)

(b) Simplify

$tanx°cosx°$ (2 marks)