**Self-assessment: 10 Trigonometric equations and identities**

**1.** **Do not use a calculator to answer this question.**

Solve the equation sin 3*x* =  for *x* ∈ [0, π].

*(accessible to students on the path to grade 5 or 6) [4 marks]*

**2.** **Do not use a calculator to answer this question.**

Find the exact values of *x* in the interval [−π, π] which satisfy the equation 2sin2 *x* – cos *x* = 1.

*(accessible to students on the path to grade 5 or 6) [8 marks]*

**3.** **Do not use a calculator to answer this question.**

Solve the equation sin2 *x* =sin *x* cos *x* for 0° ≤ *x* ≤ 360 °.

*(accessible to students on the path to grade 5 or 6)* *[6 marks]*

**4.** (a) Show that .

(b) Given that ,

(i) Show that tan *x* = 1.

(ii) Hence find the value of *x*∈ [π, 2π].

*(accessible to students on the path to grade 5 or 6) [12 marks]*