Achievement Standard

Subject Reference	Mathematics 2.8				
Title	Solve trigonometry problems requiring modelling of practical situations				
Level	2	**Credits**	2	**Assessment**	Internal
Subfield	Mathematics				
Domain	Trigonometry				
Status	Expiring			**Status date**	17 November 2011

This achievement standard is expiring. Assessment against the standard must take place before the expiry date set out below.

Expiry date	31 December 2012	**Date version published**	17 November 2011

This achievement standard requires solving practical trigonometry problems involving non-right-angled triangles.

Achievement Criteria

	Achievement Criteria	Explanatory Notes
Achievement	• Solve trigonometry problems requiring modelling of practical situations.	• Problems will involve taking measurement in a practical situation and will be based on non-right-angled triangles where the choice of technique and the measurements to be taken are easily identifiable by the student. • Techniques could involve the use of – area of triangle – sine and/or cosine rules. • Situations to be modelled could involve land measurement.

	Achievement Criteria	Explanatory Notes
Achievement with Merit	• Solve a range of trigonometry problems requiring modelling of practical situations.	• Problems will be based on non-right-angled triangles where the choice of technique and the measurements are not easily identifiable, eg bearings, or relative velocity. • Assessment must include: – sine or cosine rule – at least two of sine rule, cosine rule, circular measure (arc length, area of sector), area of triangle – finding length(s) and angle(s).
Achievement with Excellence	• Solve a complex trigonometry problem.	• Problems could include: – 2D representations of a 3D situation – a combination of techniques selected from sine and cosine rules, areas of triangles or sectors.

General Explanatory Notes

1 This standard is derived from *Mathematics in the New Zealand Curriculum*, Learning Media, Ministry of Education, 1992:
- achievement objectives pp. 82, 116
- suggested learning experiences pp. 83, 117
- sample assessment activities pp. 84-85, 118
- mathematical processes pp. 24, 26.

2 Formulae for the sine and cosine rules, areas of triangles, sectors and segments, and arc length will be given.

3 It is expected that students will relate their answers to the context. Evidence of appropriate rounding and units is required.

Replacement Information
This achievement standard, AS90808, and unit standard 5251 have been replaced by AS91259.

Quality Assurance

1 Providers and Industry Training Organisations must have been granted consent to assess by NZQA before they can register credits from assessment against achievement standards.

2 Organisations with consent to assess and Industry Training Organisations assessing against achievement standards must engage with the moderation system that applies to those achievement standards.

Consent and Moderation Requirements (CMR) reference 0226