

International Baccalaureate[®] Baccalauréat International Bachillerato Internacional

MARKSCHEME

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Paper 1

5 Accuracy of Answers

Unless otherwise stated in the question, all numerical answers must be given exactly or correct to 3 significant figures.

A penalty known as an ACCURACY PENALTY (AP) is applied if an answer is either

- (i) rounded incorrectly to 3 significant figures or
- (ii) rounded correctly or incorrectly to some other level of accuracy.

This penalty is applied to the **final answer** of a question part only. It applies **also** when an exact answer is incorrectly rounded.

THE ACCURACY PENALTY IS APPLIED AT MOST ONCE PER PAPER! Subsequent accuracy errors can be **ignored** and full marks awarded if all else is correct. Please see section G in the guidance document which clearly explains, with the use of screenshots how this works in scoris.

An accuracy penalty must be recorded in proximity to the incorrect answer as (A1)(AP). This is different to what we have done previously awarding (A0)(AP). This mark is not deducted in the item box but from the final whole paper total automatically by scoris.

If the level of accuracy is specified in the question, a mark will be allocated for giving the answer to the required accuracy. In all such cases the final mark is not awarded if the rounding does not follow the instructions given in the question. This is **NOT** an accuracy penalty. A mark for specified accuracy can be regarded as a (ft) mark regardless of an immediately preceding (M0).

Rounding of an exact answer to 3 significant figures should be accepted if performed correctly. If the

rounding is incorrect, an accuracy penalty should be applied as $\frac{1}{4}$ above. Exact answers such as $\frac{1}{4}$

can be written as decimals to less than three signe care figures if the result is still exact. Reduction of a fraction to its lowest terms is **not** essential.

Ratios of π and his zero taking the form (Equipe roots of integers (even if exact squares) or any rationar power of an integer (e.g. $\sqrt{13}$, $\sqrt{2^3}$, $\sqrt{5}$, $\sqrt{9}$) may be accepted as exact answers. All other powers

(*e.g.* of non-integers) and values of transcendental functions such as sine and cosine must be evaluated. Answers with no supporting working (usually from a GDC), which are written correct to more than 3 significant figures can be awarded full marks with an (AP) then applied. When this happens, multiple C marks can be split *e.g.* (AI)(AI)(AP).

If there is no working shown, and answers are given to the correct two significant figures, apply the (*AP*). However, do not accept answers to one significant figure without working.

An accuracy penalty should not be applied to an answer that is already incorrect for some other reason.

QUESTION 3



QUESTION 13

(a)	y = -2x + 8	(M1)

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Note: Award (M1) for rearrangement of equation or for -2 seen.

$$m(\text{perp}) = \frac{1}{2} \tag{A1}$$

(b) (i)
$$2(4) + k - 8 = 0$$
 (*M1*)

Note: Award (*M1*) for evidence of substituting x = 4 into R_1 .

$$k = 0 \tag{A1} (C2)$$

(ii)
$$y = \frac{1}{2}x + c$$
 (can be implied) (M1)

Note: Award (*M1*) for substitution of $\frac{1}{2}$ into equation of the line.



Notes: Follow through from parts (a) and (b)(i). Accept equivalent forms for the equation of a line.