

General Mathematics

Unit 1 Practice Exam A, 2019

Time allowed

Perusal – 5 minutes

Working time – 120 minutes

Paper 1 of 1 – technology active

Eighteen short-response questions

General instructions

- Answer all questions in this question and response book
- The QCAA formulae sheet is provided with this paper
- Personal notes are not permitted
- Use of an approved scientific calculator is permitted

Instructions

- Write your responses in the space provided using black or blue pen.
 - There is no need to fill all the space provided when responding.
 - Questions worth more than one mark require working to be shown to support answers, using suitable mathematical language where appropriate.
 - Include units in final answers if appropriate.
 - Unless otherwise instructed, all numerical answers should be given to two decimal places.
 - If you need more space for your response, use the additional pages at the back of the book:
 - To cancel your incorrect response, rule a single, diagonal line through your work. If you fail to do this, your original response will be marked.
 - Note the page number of your additional response, i.e. See page ...
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DO NOT WRITE ON THIS PAGE

THIS PAGE WILL NOT BE MARKED

Question 1**(5 marks)**

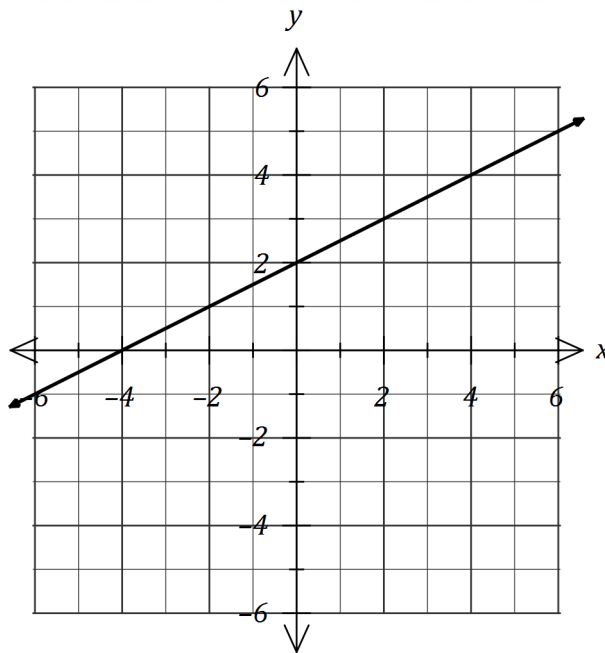
The rate of the Goods and Services Tax (GST) varies from country to country. In Australia it is 10% but in Thailand it is only 7% whilst in Sweden it is 25%.

- (a) Determine the amount of GST that must be added to goods valued at \$300 in Sweden. (1 mark)
- (b) The price of a TV set in Thailand is \$400, excluding GST. Calculate the GST inclusive price. (2 marks)
- (c) In another country, a \$20 CD costs \$23 when GST is included. Determine the rate of GST in this country. (2 marks)

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Question 2**(6 marks)**

The graph of $y = a + bx$ is shown below.



- (a) Determine the value of a and the value of b . (2 marks)
- (b) Draw the line with equation $y = 2x + 5$ on the same axes above. (2 marks)
- (c) Using the values of a and b from part (a), solve the equations $y = a + bx$ and $y = 5 + 2x$ simultaneously for x and y . (2 marks)

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Question 3**(6 marks)**

An agri-business employed casual labourers for fruit picking. The business pays casual labourers an hourly rate of \$20 per hour, with time and a half being paid for any weekend work.

One week, a casual labourer worked 6 hours on Tuesday, 5 hours on Wednesday, 4 hours on Saturday and 3 hours on Sunday.

(a) How much did the casual labourer earn

(i) on Tuesday?

(1 mark)

(ii) over the weekend?

(2 marks)

(iii) during the whole week?

(2 marks)

(b) The business makes a superannuation contribution of 9.5% of weekly earnings for casual labourers. Calculate the weekly superannuation contribution for a casual labourer who earns \$880 per week. (1 mark)

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