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|  | Student Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  **Eastern Goldfields College**  Mathematics Methods Year 11 2018  Assignment Validation – Calculator Free |
| Reading Time: 1 minute  Working Time: 15 minutes | Total Marks: 15 marks |

Question 1 (4 marks)

A straight line passes through points C (2, -5) and D ( -3, 2). Determine the equation of the straight line that is perpendicular to this line and passes through D, expressing your answer in the form , where , and are integers.

Question 2 (4 marks)

For the graph with equation , determine the coordinates of

(a) all axes intercepts. (2 marks)

(b) the turning point. (2 marks)

Question 3 (7 marks)

Solve each of the following equations for the variable .

(a) . (2 marks)

(b) . (2 marks)

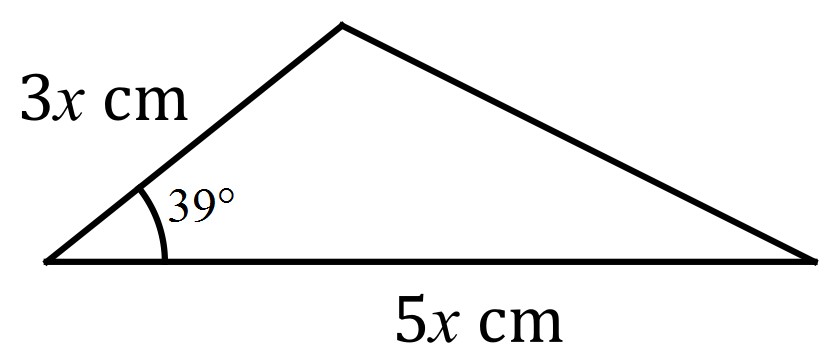
(c) . (3 marks)

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|  | Student Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  **Eastern Goldfields College**  Mathematics Methods Year 11 2018  Assignment Validation – Calculator Assumed |
| Reading Time: 2 minutes  Working Time: 20 minutes | Total Marks: 16 marks |

Question 4 (6 marks)

(a) Determine the size, to the nearest degree, of the smallest angle in a triangle with sides of lengths 23 cm, 28 cm and 31 cm. (3 marks)

(b) The area of the triangle shown below is 280 cm2. Determine the value of . (3 marks)



Question 5 (6 marks)

From an analysis of the species of fish caught by 107 anglers during a competition, it was found that 65 anglers had caught tailor, 81 anglers had caught herring and 9 had caught neither of these species.

Let set be the set of anglers who had caught tailor and set be the set of anglers who had caught herring.

(a) Use set notation to describe the set of anglers who caught herring but not tailor.

(1 mark)

(b) Determine

(i) . (2 marks)

(ii) . (1 mark)

(b) If one angler from the competition is selected at random, determine .

(2 marks)

Question 6 (4 marks)

At 3 pm, the length of the shadow of a thin vertical pole standing on level ground is the same as the height of the pole. A while later, the angle of elevation of the sun has decreased by 15° and the length of the shadow has increased by 85 cm. Determine the height of the pole.