

1

Pythagorean Theorem

2026

Question booklet 1

- Questions 1 to 7 (42 marks)
- Answer **all** questions
- Write your answers in this question booklet
- You may write on page 11 if you need more space
- Allow approximately 65 minutes

Examination information

Materials

- Question booklet 1

Instructions

- Show appropriate working and steps of logic in the question booklets
- State all answers correct to three significant figures, unless otherwise instructed
- Use black or blue pen
- You may use a sharp dark pencil for diagrams and graphical representations

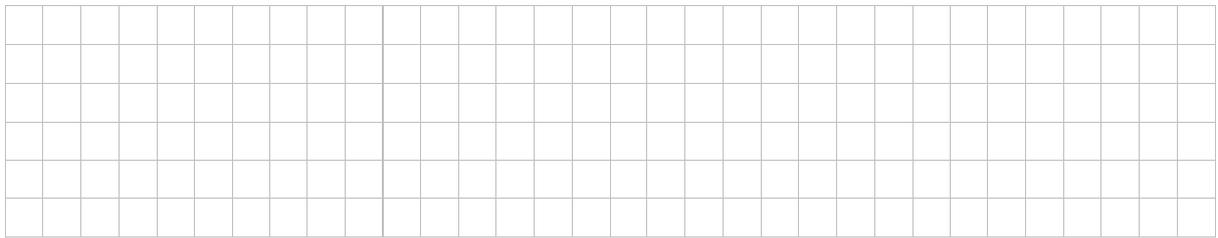
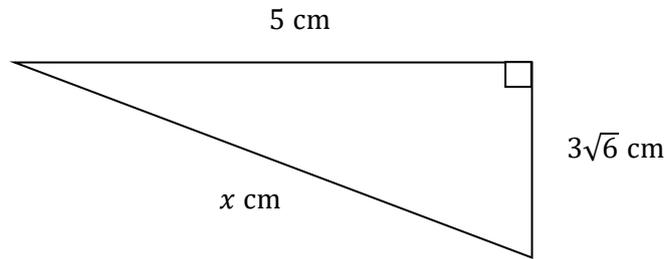
Total time: 65 minutes

Total marks: 42

Question 1 (8 marks)

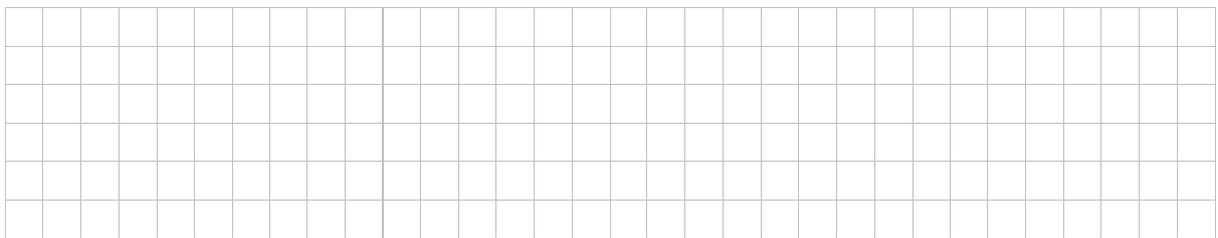
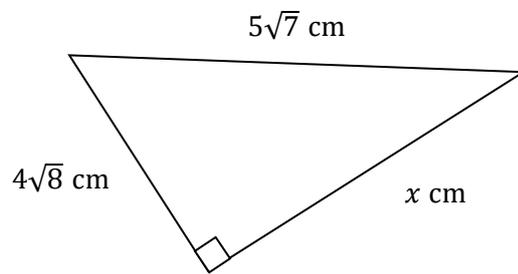
(a) Find the exact value of x for each of the following triangles.

(i)



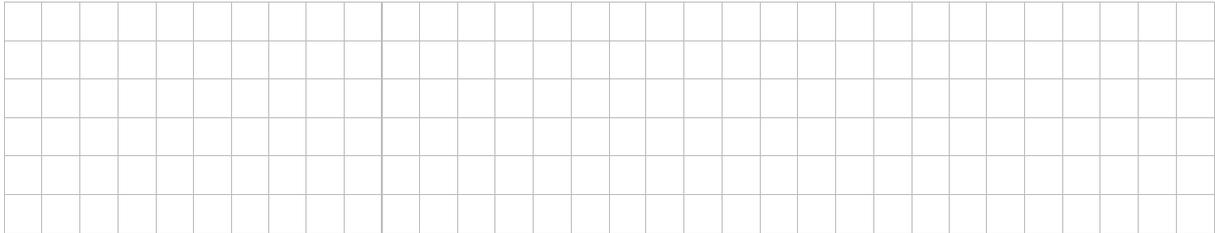
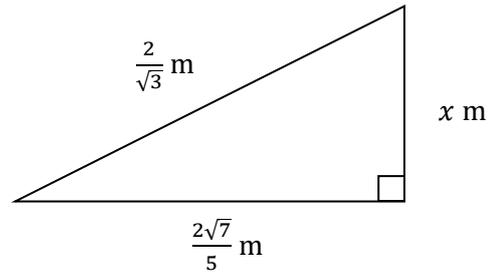
(2 marks)

(ii)



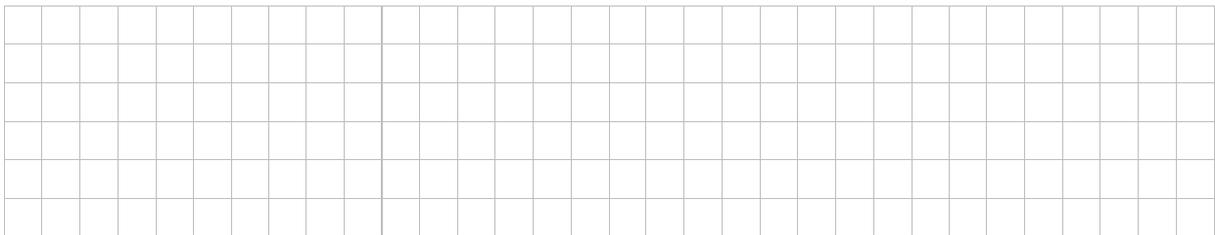
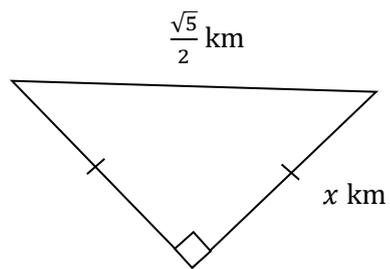
(2 marks)

(iii)



(2 marks)

(iv)

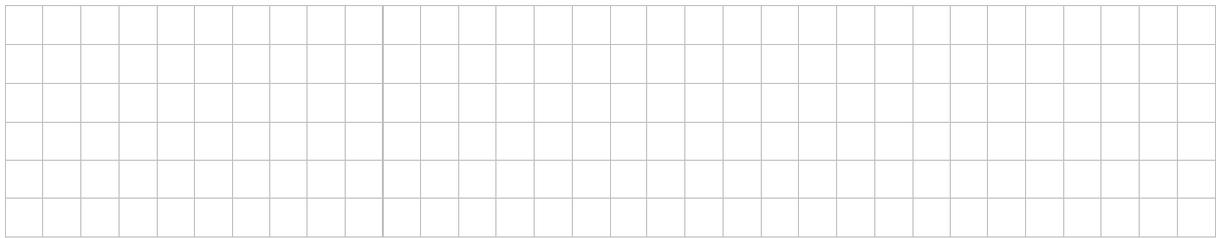
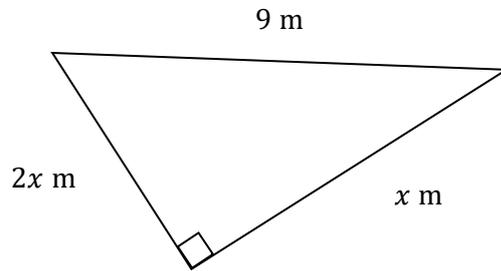


(2 marks)

Question 2 (8 marks)

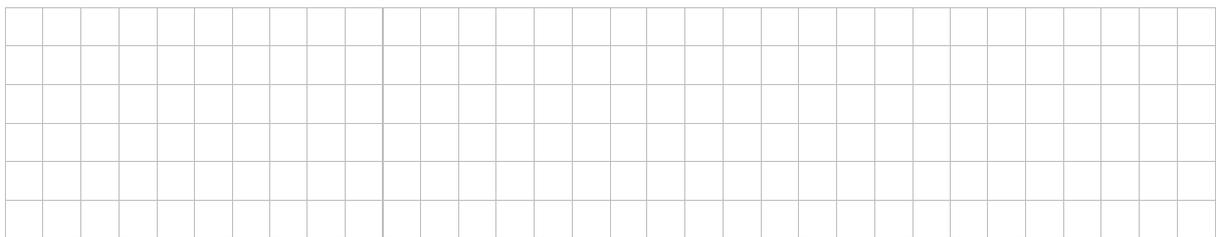
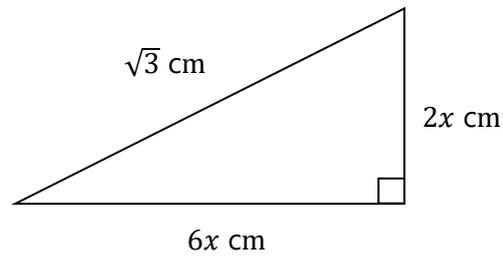
(a) Find the exact value of x for each of the following triangles.

(i)



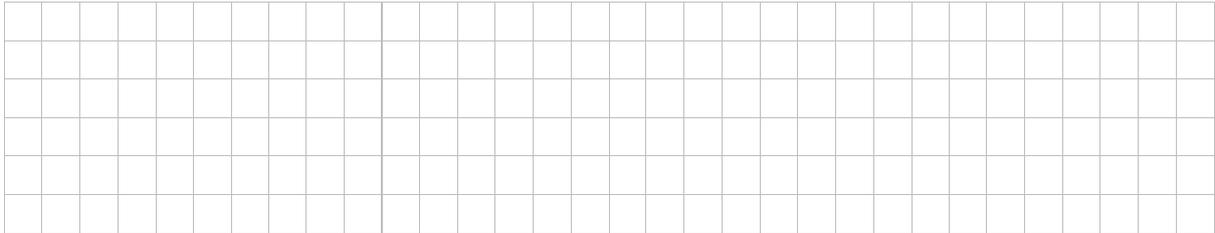
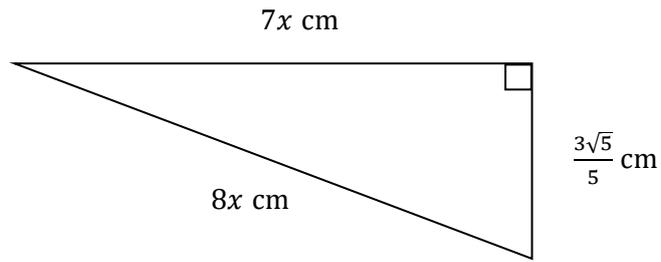
(2 marks)

(iii)



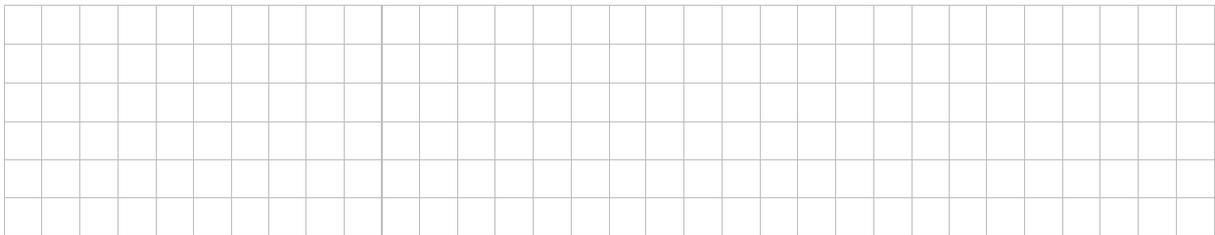
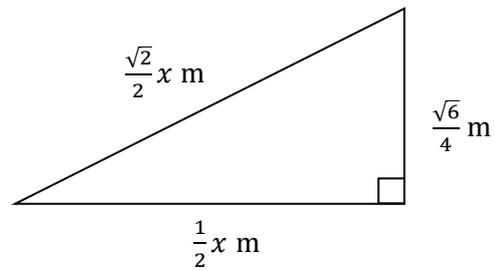
(2 marks)

(iii)



(2 marks)

(iii)

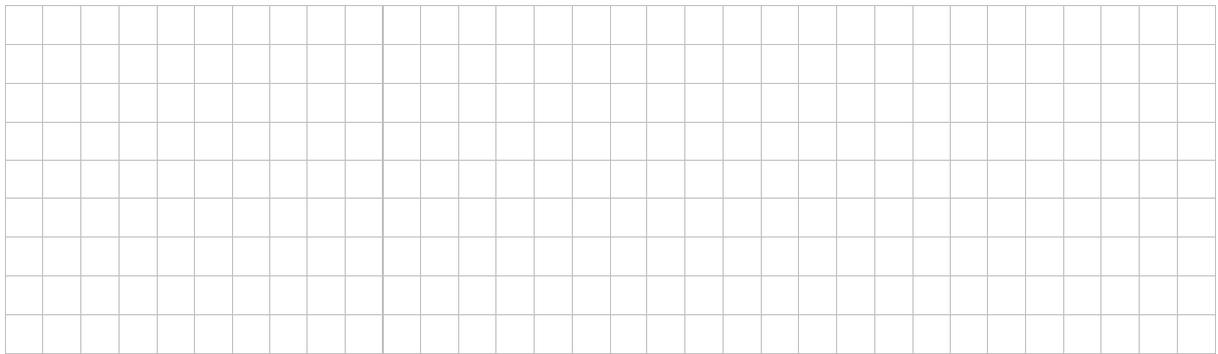
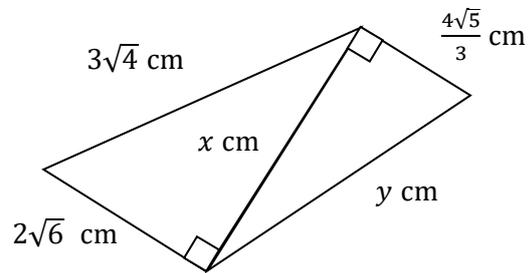


(2 marks)

Question 3 (8 marks)

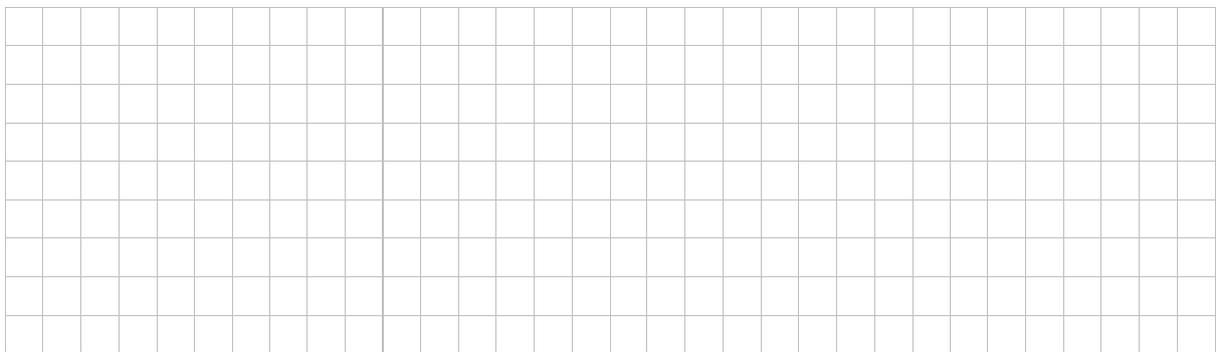
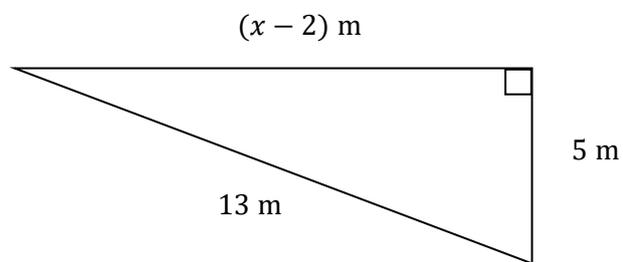
(a) Find the value of any unknowns.

(i)



(4 marks)

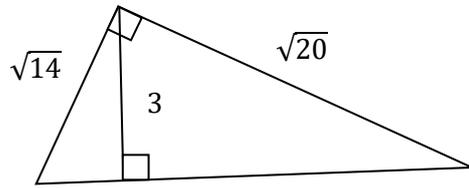
(ii)



(4 marks)

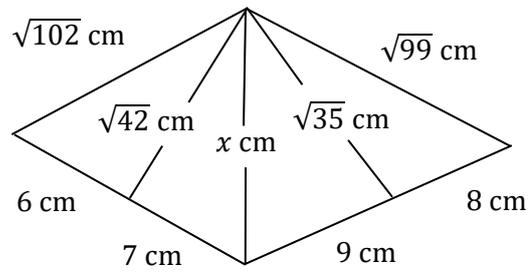
Question 4 (8 marks)

(a) Use the figure below to show that $\sqrt{5} + \sqrt{11} = \sqrt{34}$.



(4 marks)

(b) Find the exact value of x .



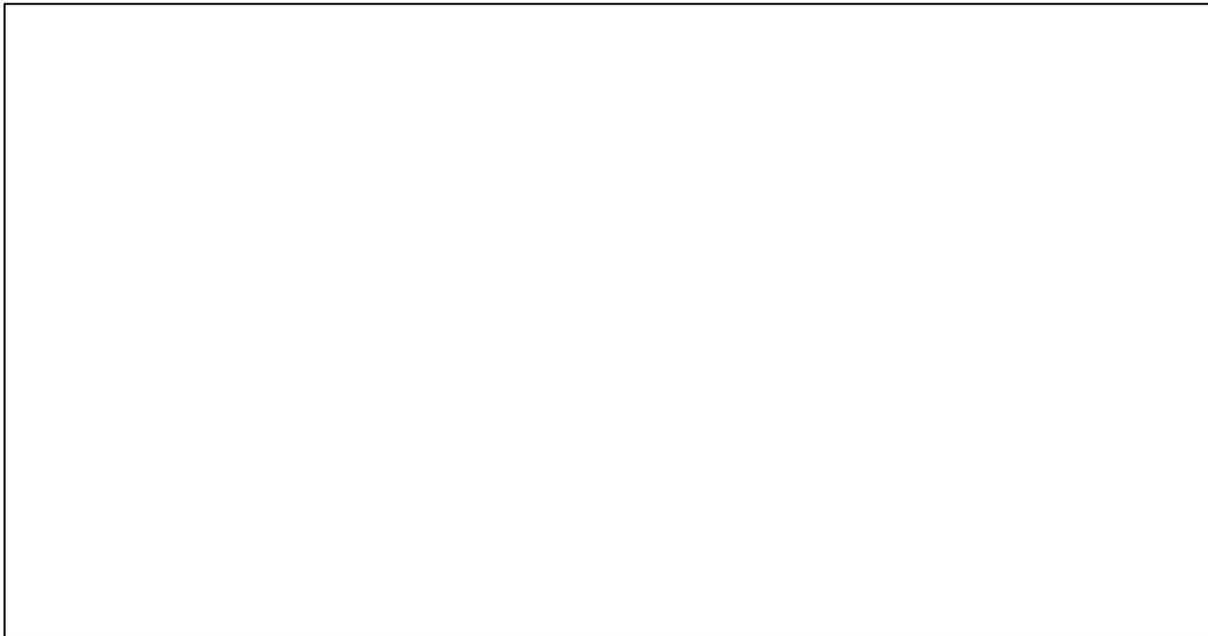
(4 marks)

Question 7 (3 marks)

- (a) Two runners set off from City A at the same time. Runner One runs due east to City B, whilst Runner Two runs due south to City C, at but at twice the speed of Runner One. The runners arrive at their respective cities two hours later. Given that City B and City C are 42 km apart, find the average speed of each runner.

(Note that $Speed = \frac{Distance}{Time}$)

Space for sketching



(4 marks)

You may write on this page if you need more space to finish your answers to any of the questions in this question booklet. Make sure to label each answer carefully (e.g. 11(c)(i) continued).

A large grid of graph paper, consisting of 20 columns and 30 rows of small squares, intended for writing answers to questions.

End of booklet