
Year 11 Maths

Test

Time Allowed: 30 minutes

Total Marks: 29

23 September 2025

Calculator Allowed

Full Name of Student:

1. .

Factorise

(a) $x^2 - 100$

.....
(1)

(b) $x^2 - x - 12$

.....
(2)

(c) $3x^2 + 7x + 2$

.....
(2)

[Total for Question 1 = 5 marks]

2.

y is directly proportional to the square of x .

When $x = 3$, $y = 36$

Find the value of y when $x = 5$

[Total for Question 2 = 3 marks]

3. .

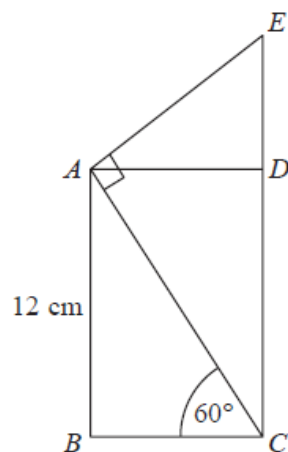


Diagram NOT
accurately drawn

$ABCD$ is a rectangle.
 CDE is a straight line.

$AB = 12$ cm
Angle $ACB = 60^\circ$
Angle $EAC = 90^\circ$

Calculate the length of CE .
You must show all your working.

..... cm

[Total for Question 3 = 4 marks]

4.

Solve the simultaneous equations

$$3x + 4y = 5$$

$$2x - 3y = 9$$

$$x = \dots\dots\dots$$

$$y = \dots\dots\dots$$

[Total for Question 4 = 4 marks]

5.

Solve the equation $3x^2 + 4x - 12 = 0$

Give your solutions correct to 2 decimal places.

Show clear steps of working. Answers with no working will gain no marks.

[Total for Question 5 = 3 marks]

Question 6 is on the next page.

6. .

- (a) Expand $(1 + \sqrt{3})^2$

Give your answer in the form $a + b\sqrt{3}$ where a and b are integers.

.....
(2)

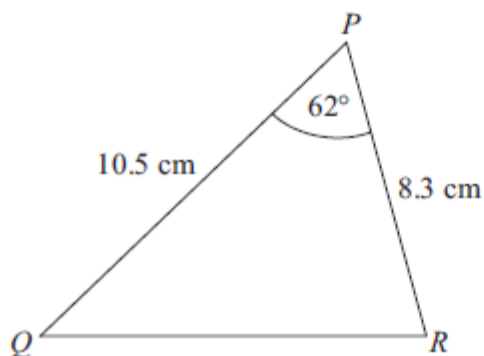


Diagram **NOT**
accurately drawn

In triangle PQR ,

$PQ = 10.5$ cm,

$PR = 8.3$ cm.

angle $QPR = 62^\circ$.

- (b) Calculate the length of QR .

Give your answer correct to 3 significant figures.

.....cm
(3)

[Total for Question 6 = 5 marks]

7. .

Solve the equation $\frac{6}{x-2} - \frac{6}{x+1} = 1$

Show clear algebraic working.

[Total for Question 7 = 5 marks]

- End of Test –
