GCSE Higher – Day 1

Factorise $x^2 + 5x + 6$

GCSE Higher – Day 2

Work out $(2 \times 10^8) \times (4 \times 10^4)$, giving your answer in standard form.

GCSE Higher – Day 3

Simplify 5^{-3}

GCSE Higher – Day 4

In a sale a phone is reduced by 10% to $504. What was it's original price?
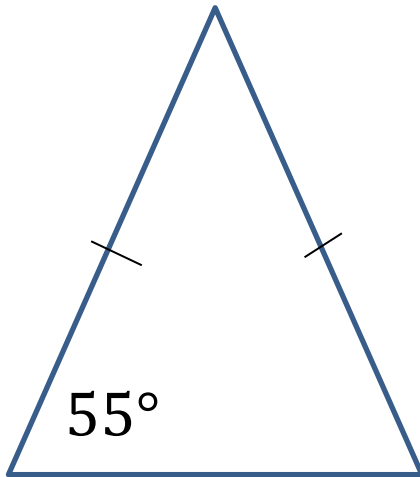
GCSE Higher – Day 5

Find the nth term of the sequence $4, 9, 14, 19, 24$

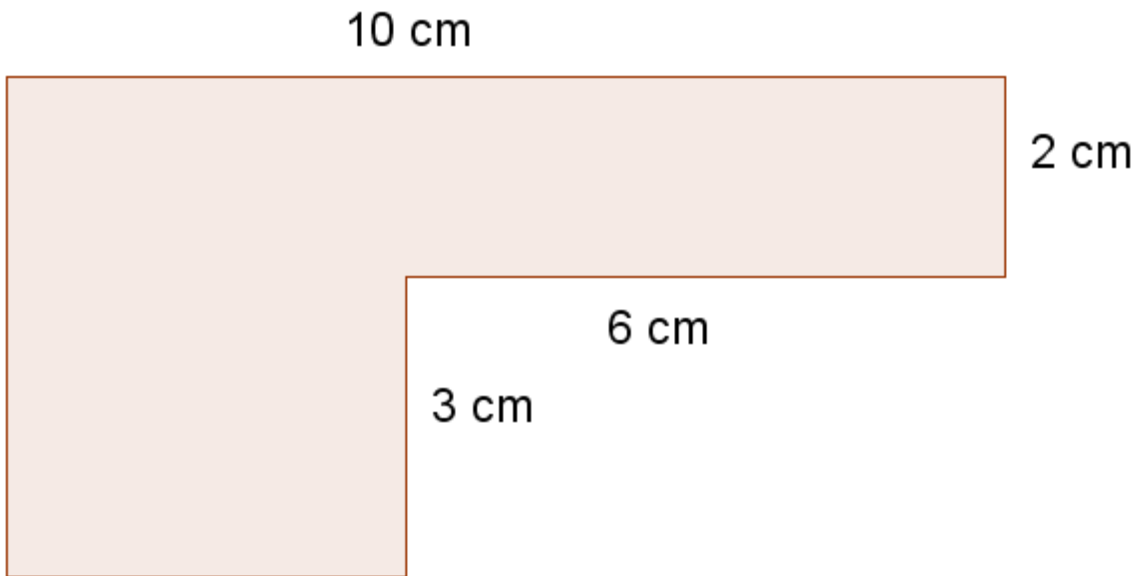# GCSE Higher – Day 6

Expand $(x + 5)(2x + 4)$

GCSE Higher – Day 7

The triangle shown below is isosceles. Find the other two missing angles.

55°

GCSE Higher – Day 8

Find the area of the shape below.

10 cm

2 cm

6 cm

3 cm

GCSE Higher – Day 9

The equation $x^2 - 2x = 14$ has a solution between 4 and 5. Use trial and improvement to find this solution correct to 1 d.p.

GCSE Higher – Day 10
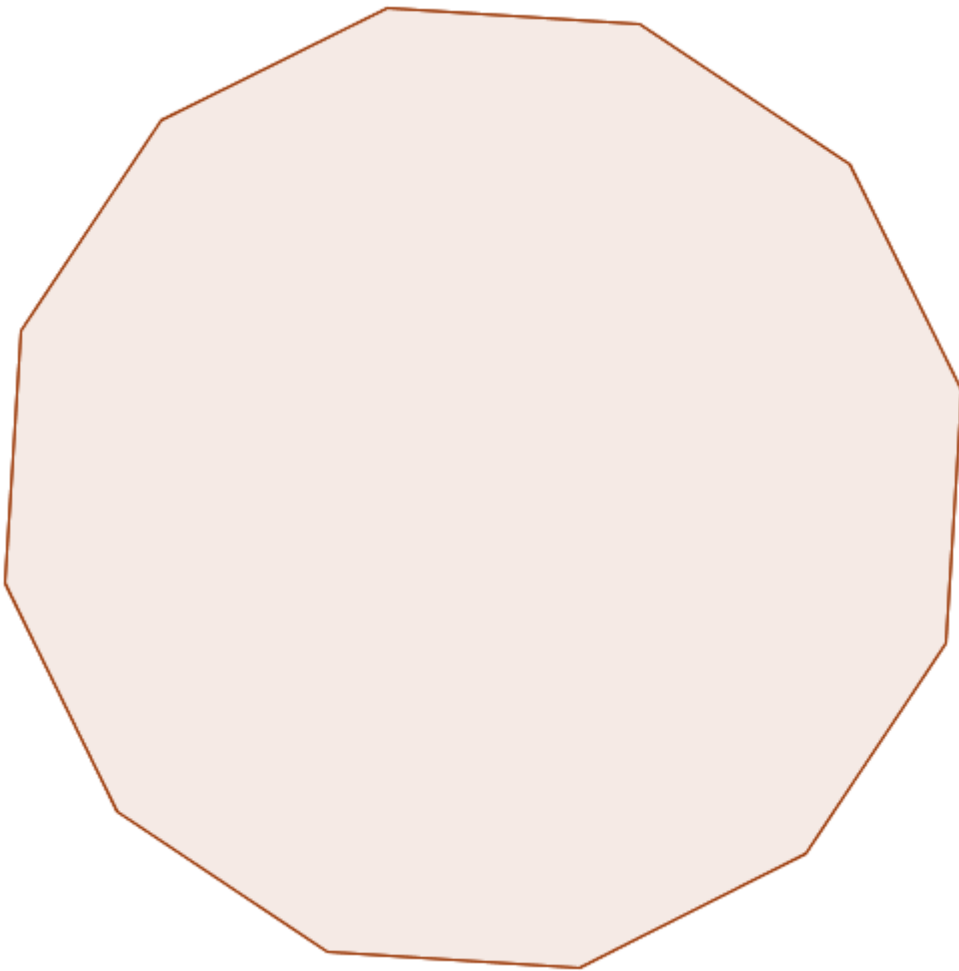
Write the following data in a stem and leaf diagram.

12, 28, 31, 54, 17, 11, 42, 44, 59, 33, 31, 37, 17, 22

GCSE Higher – Day 11

Work out the value of $x^2 + 3xy$ when $x = 4, y = 5$.

GCSE Higher – Day 12

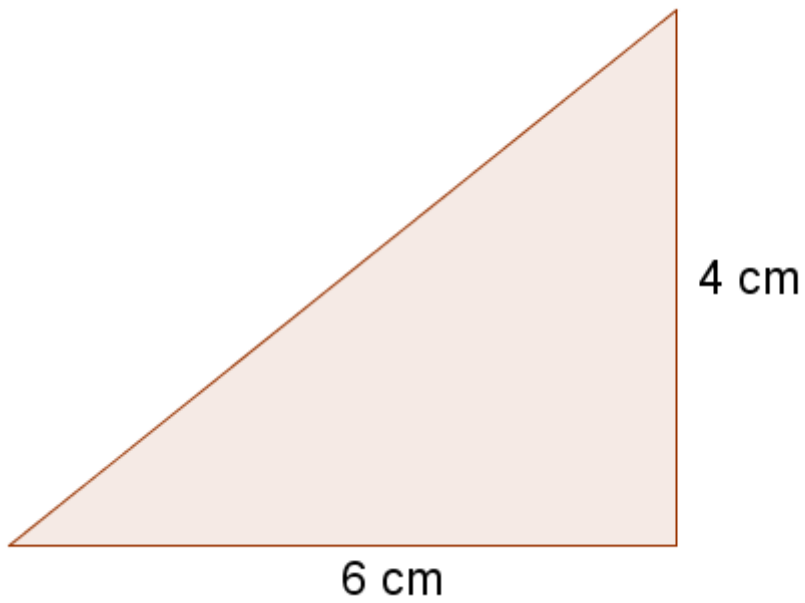Find the interior and exterior angles of the polygon shown below

GCSE Higher – Day 13

Solve the quadratic equation $x^2 + 2x - 8 = 0$

GCSE Higher – Day 14

Find the length of the hypotenuse for the triangle below
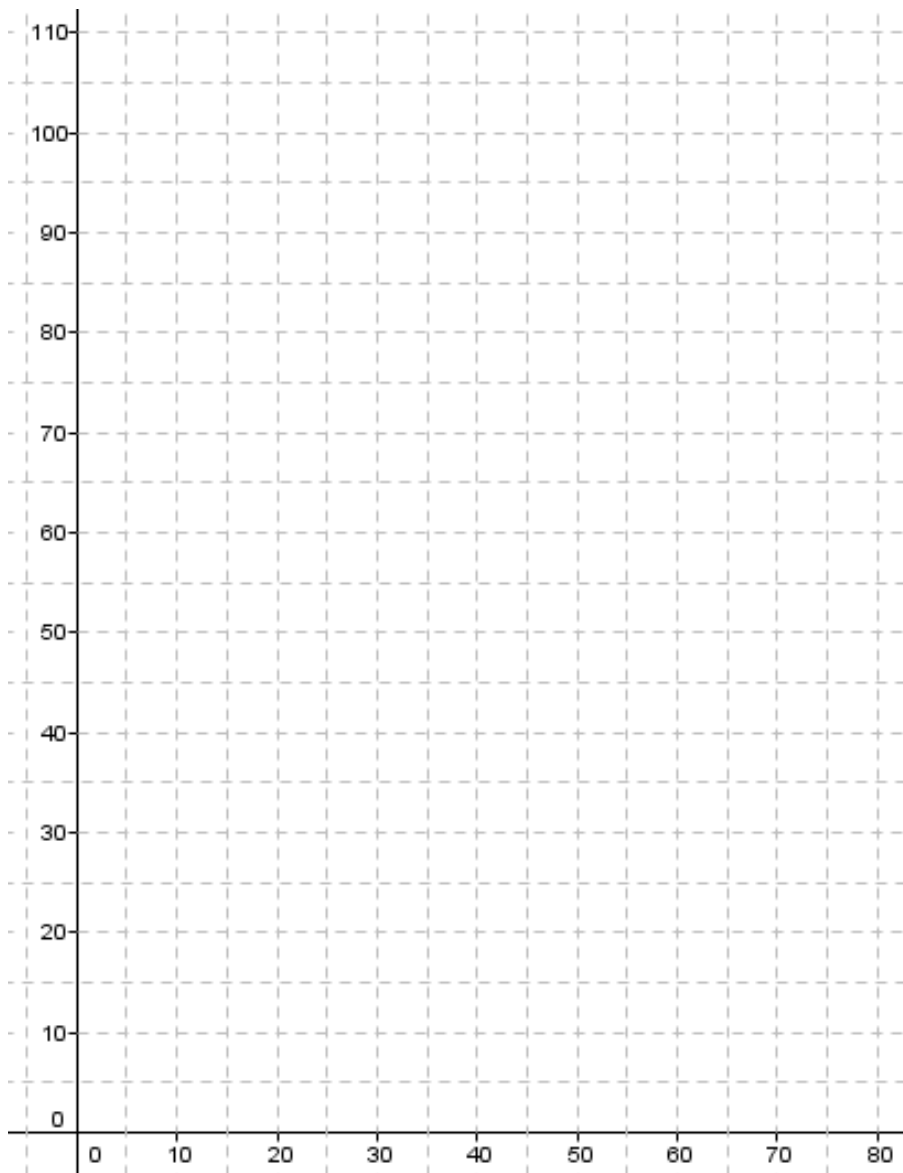
4 cm

6 cm

GCSE Higher – Day 15

Solve the equation below

$$2x + 6 = 3x + 2$$

GCSE Higher – Day 16

The time taken to complete their maths homework is recorded by 100 students. Complete the table below and plot the corresponding cumulative frequency graph on the axes below.

| Time (t minutes)	Frequency	Cumulative Frequency
$0 < t \leq 10$	8	
$10 < t \leq 20$	27	
$20 < t \leq 30$	13	
$30 < t \leq 40$	20	
$40 < t \leq 50$	22	
$50 < t \leq 60$	10	

GCSE Higher – Day 17

Using the cumulative frequency graph plotted on Day 16 find an estimate for the median time taken.

Find also the interquartile range for the time taken by students to complete their homework.

GCSE Higher – Day 18

What type of correlation does the graph below show
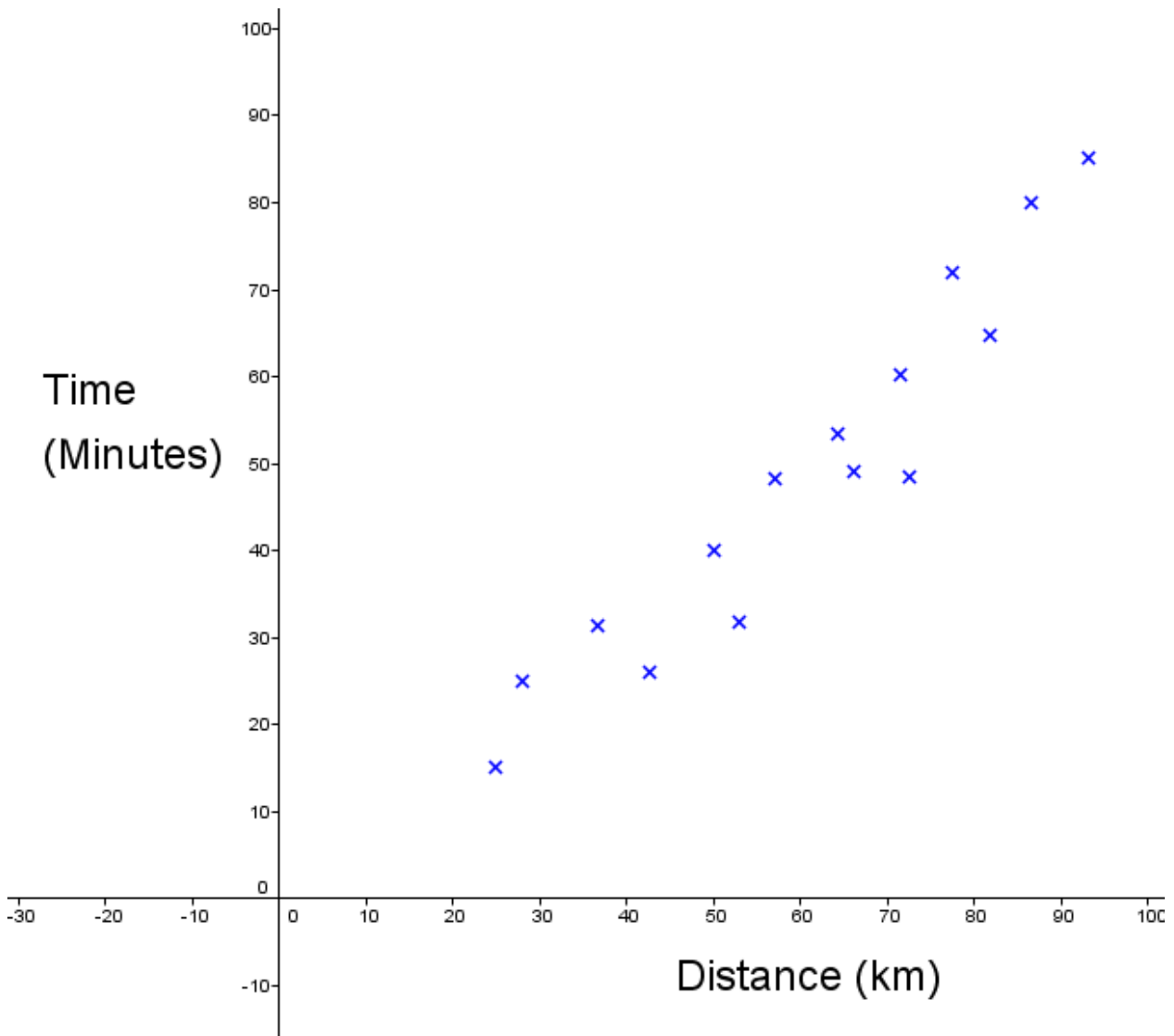
GCSE Higher – Day 19

Using a written method work out 0.27×2.56

GCSE Higher – Day 20

A rectangle has an area of $4 \ km^2$. Write this area in m^2.

GCSE Higher – Day 21

Construct an angle bisector for the angle given below.