

**HIGHER TIER
MINI PRACTICE EXAM 11**



**NON-CALCULATOR
20 MINUTES ALLOWED**

1.
Kyle is shopping for some gravel for his garden.
He sees two adverts.

<p style="text-align: center;">Gardenbase</p> <p style="text-align: center;">10 kg bag for £3.50 25 kg bag for £8</p> <p style="text-align: center;">£5 off when you spend over £25</p>
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<p style="text-align: center;">Harmison's Garden Supplies</p> <p style="text-align: center;">Gravel sold at 40p per kilogram</p> <p style="text-align: center;">Sale: 20% off</p>
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Kyle needs 65 kilograms of gravel.
Which shop is cheaper?

(4)

2.
A dodecagon is a 12-sided polygon.

Find the interior and exterior angles of a regular dodecagon.

(2)

3.
Make y the subject of the equation

$$x - xy = y + 2$$

(3)

4.

A football team played 46 matches last season.

They receive 3 points for each win, 1 point for each draw and no points for each loss.

The team lost 12 games last season and finished with 70 points.

How many games did the team draw last season?

(5)

5.

r and s are functions.

$$r(x) = ax^2$$

$$s(x) = bx + 1$$

Given that $rs(1) = 32$ and $s^{-1}(10) = 3$, find a and b .

(6)