



# Higher Y10 Mathematics Homework



## **HALF-TERM 1**

### Week 1

#### N3.7 Limits of Accuracy

The weight of a bag of potatoes is 15 kg, correct to the nearest kg.

- (a) Write down the smallest possible weight of the bag of potatoes.
- (b) Write down the largest possible weight of the bag of potatoes.

Genie Q1

#### N3.7 Limits of Accuracy

A number  $x$  is rounded to 2 decimal places.

The result is 0.18

Write down the error interval for  $x$ .

Genie Q7

#### N6.5 Inverse Proportion

It takes 5 machines 6 hours to produce 1000 DVDs

Work out how long it would take 4 machines  
to produce 1000 DVDs.

Genie Q8

## Hegarty - Week 2

Skills Check – 122 & 123 Standard Form

New Knowledge – 91 & 92 Repeated Percentage Increase

## Week 3

### A1.10 Complex Formulae

$$a = -3, b = -8, c = -5$$

Given that

$$M = a^2 + \sqrt{\frac{4b-c}{a}}$$

Find  $M$

Maths 4 Everyone

### A1.10 Complex Formulae

$$a = -7, d = 4, n = 21$$

Given that

$$S = \frac{n}{2}[2a + (n-1)d]$$

Find  $S$

Maths 4 Everyone

### SP4.4 Estimating Probabilities

The probability that Frank scores a penalty is 0.86

Frank is going to take 50 penalties.

Work out an estimate for the number of times Frank will score.

Genie Q3

### SP4.4 Estimating Probabilities

The table shows the probabilities that a biased dice will land on 1, on 2, on 3, on 5 and on 6.

<b>Number</b>	1	2	3	4	5	6
<b>Probability</b>	0.14	0.2	0.08		0.13	0.21

The dice is rolled 200 times.

Work out an estimate for the number of times the dice will land on 2 or on 4.

Genie Q14

## Hegarty - Week 4

Skills Check – 681 Congruence (2)

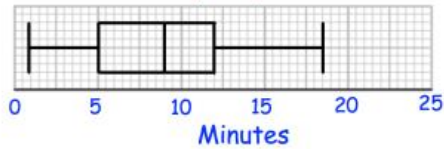
New Knowledge – 653 Describe Transformations

## Week 5

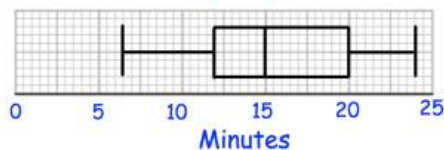
### SP1.5 Inter-Quartile Range

Compare the distributions.

Time taken to complete puzzle - Children



Time taken to complete puzzle - Adults



### N2.7 Calculating with Standard Form

DO NOT USE A CALCULATOR

- Write  $5.2 \times 10^{-1}$  as an ordinary number.
- Work out the value of  $(3.2 \times 10^3) \times (6.5 \times 10^4)$   
Give your answer in standard form.

YOU MAY USE A CALCULATOR

The area of Australia is  $7.7 \times 10^6 \text{ km}^2$   
The area of Cyprus is  $9.3 \times 10^3 \text{ km}^2$   
How many times larger is Australia than Cyprus.  
Give your answer to the nearest whole number.

### N7.6 Rules of Indices

DO NOT USE A CALCULATOR

Work out the value of  $(2^2)^3$

### N7.6 Rules of Indices

DO NOT USE A CALCULATOR

- Write  $\frac{3^4 \times 3^5}{3^2}$  as a power of 3
- Write down the value of  $3^{-3}$
- Write down the value of  $3^0$

Genie Q13

Genie Q11

## Hegarty - Week 6

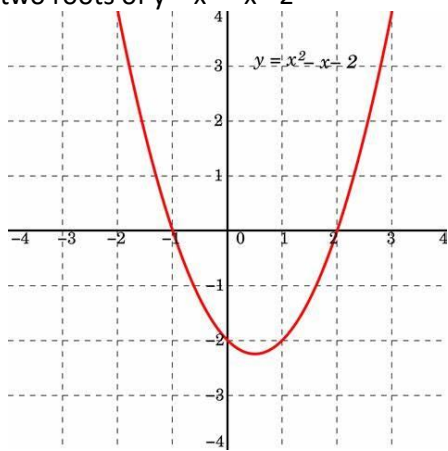
Skills Check – 223- 225 Factorise Quadratic Expressions

New Knowledge – 125 & 126 Multiplying & Dividing with Standard Form

# Week 7

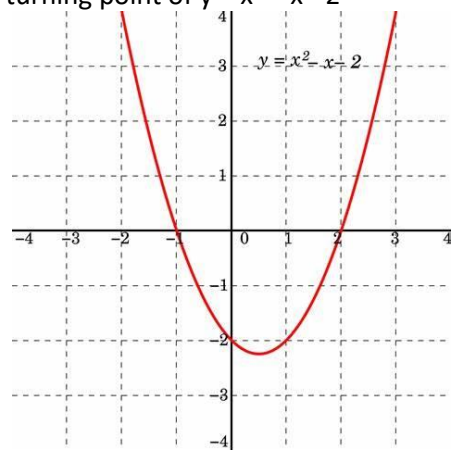
## A3.6 Quadratic Functions

Give the two roots of  $y = x^2 - x - 2$



## A3.6 Quadratic Functions

Give the turning point of  $y = x^2 - x - 2$



## A5.1 Factorising Quadratics

Factorise the following expressions:-

$$k^2 + 13k + 30$$

$$y^2 - 10y + 16$$

$$x^2 - 3x - 10$$

## A5.1 Factorising Quadratics

Factorise the following expressions:-

$$x^2 - 9$$

$$x^2 - 64$$

## Half-Term Holiday

Consolidation - .....

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