# Tenbury High Ormiston Academy Maths Department 

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\text { Stage } 8 \text { Home Learning project Spring term } 2
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Name: $\qquad$ Deadlines: $\qquad$

Maths teacher: $\qquad$
$\qquad$

LMG: $\qquad$
$\qquad$

If you have any problems with any of the tasks then please ask your class teacher or pop along to homework club on Tuesday, Wednesday or Thursday lunchtimes.

For assessment criteria please see the school websites new homework page. All tasks should be completed in your maths homework book.

Task 1: Mathematical definitions
Write a definition for each of the following terms and give an example where possible.

| Proportional reasoning | Calculating fractions, decimals and percentages |
| :--- | :--- |
| Ratio | Proper fraction |
| Proportional | Improper fraction |
| Multiplier | Mixed number |
| Speed | Simplify, cancel, lowest terms |
| Unitary method | Percentage change |
| Units | Original amount |
| Compound unit | Simple interest |

TASK 2: Complete each of the tasks below.

Research

| As a percentage, what is the |
| :---: |
| current population growth rate of |
| the UK? |

Write this as a decimal multiplier.


| Increase by 25\% |
| :---: |
| Decrease by 25\% |
| Increase by 32\% |
| Decrease by 15\% |
| Decrease by 60\% |
| Increase by 3.2\% |


| 0.85 |
| :---: |
| 1.32 |
| 0.75 |
| 0.4 |
| 1.032 |
| 1.25 |

1. A jacket is reduced by $40 \%$ in a sale to $£ 36$. What was its original price?
2. A car depreciates in value by $30 \%$ during its first year. Its value now is $£ 8960$. What was its original price?
3. A coat is reduced by $20 \%$ in a sale. If it was originally £85, how much is it now?
4. If a bed is reduced by $35 \%$ in a sale to $£ 91.00$, find the original price.
5. The bill in a restaurant comes to £92. A service charge of $15 \%$ is added. What is the new cost?
6. If a computer is reduced by $77 \%$ in a sale to $£ 6.90$, find the original price

Given that the UK population was 64.1 million in 2013, use your multiplier to predict what it would be in 2025.

Task 3: Computer based homework task
Using www.corbettmaths.com watch the following videos and answer the questions set in your homework book. You must show all your working out.

Video 229 Speed distance time - choose one of the following sets of questions to answer.

| Green | Amber | Red | Killer |
| :--- | :--- | :--- | :--- |
| Textbook exercise | Textbook exercise | Textbook exercise | Textbook exercise |
| Workout questions: | Workout questions: | Workout questions: | Workout questions: |
| Q1 (a-d) | Q2 (a-d) | Q3 (a-d) | Q4 (a-d) |
| Q5 (a-d) | Q6 (a-d) | Q7 (a-d) | Q10 $(g-j)$ |
| Q9 (a-d) | Q10 $(a-d)$ | Q 10 $(e-h)$ | Q11a, Q12a, Q13a, Q14a |
| Apply questions: 1-4 | Apply questions: 5-8 | Apply questions: 9-12 | Apply questions: 13-16 |

