# Year 10 Objective List – Foundation

## Probability:

| Objective | Sparx Task | |
|-----------|------------|---|
| Use a probability scale (distinguish between impossible, certain, likely, unlikely and even chance) | U803 | |
| Find probabilities from single theoretical events including dice, coins, spinners etc. | U408 U510 | |
| Work out probabilities from frequency tables, frequency tress and two way tables. | U280 | |
| Understand mutually exclusive events and that probabilities should always sum to 1. | U683 | |
| Be able to compare experimental and theoretical probabilities and make inferences | U166 | |
| Define experimental probability and understand relative frequency and expected outcomes. | U673 | |
| List outcomes systematically for single and combined events (sample spaces) | U104 | |
| Find probabilities from combined events and understand the importance of AND and OR in context. | | |
| Use tree diagrams for two dependant/independent events | U558 U729 | |
| Fill in a Venn diagram from raw data or a frequency table | U476 | |

## Ratio and Proportion:

| Objective | Sparx Task | |
|-----------|------------|---|
| Write a ratio to describe a situation and cancel into it's lowest form. | U687 | |
| Understand and use the relationship between ratios and fractions | U176 U753 | |
| Split an amount into a given ratio. Explore this relationship | U577 | |
| Solve a mixture of ratios problems (be able to use ratio tables) | U921 | |
| Understand proportional amounts and links to ratio | U865 | |
| Solve worded problems involving different types of proportion | U721 | |
| Scale up recipes, convert currencies | U610 | |
| Use the unitary method/ratio tables as ways of solving proportion/best buys problems | U640 | |

| | | |
|---|---|---|
| *Write ratios in 1:n and n:1 form | | |
| * Understand the link between ratios and equations | | |
| *Use given amount in ratio questions 3 different ways | | |
| *Link proportion to graphs | | |
| *Start to explore the direct proportion relationship of y=kx | | |

*Additional objectives

# Multiplicative reasoning:

| Objective | Sparx Task | |
|---|---|---|
| Recall speed formulae and use to find variables (or proportional reasoning) | U151 | |
| Interpret and understand distance/time graphs | U256 | |
| Recall and use formulae for density. Link to volumes work. | U910 | |
| Recall and use formulae for pressure | U527 | |
| Convert between different compound units. | U515 | |
| Substitute into the various kinematics formulae (do not need to recall these) | | |
| Use percentage as an operator (profit, loss, repeat percentage change, original amounts) | | |
| Use compound interest | | |
| Use a variety of measures within proportion problems (e.g. currency, rates of pay) | U721 | |
| Understand types of proportion (direct/inverse) and start to interpret growth/decay problems | U357 | |