# Year 10 Objective List – Higher HT6 – 2022-23

## Transformations:

| Objective | Sparx Task | |
|---|---|---|
| Draw and describe translations using column vector notation | U196 | |
| Draw and describe rotations from the origin or and other coordinate | U696 | |
| Draw and describe horizontal/vertical/diagonal reflections using mirror lines given by equations | U799 | |
| Understand types of symmetry and be able to give an equation to define a line of symmetry | U849 | |
| Draw and describe enlargements with and without a centre of enlargement | | |
| Understand enlargements described with positive integer/ positive fractional and negative scale factors. | U519<br>U134 | |
| Draw and describe combinations of transformations | U766 | |
| Understand the invariance of the different types of transformations (and combinations) | U766 | |

## Similarity & Congruence:

| Objective | Sparx Task | |
|---|---|---|
| Understand and use SSS, ASA, SAS and RHS conditions to prove congruence and verify constructions | U790 | |
| Solve problems by proving congruence | U887 | |
| Understand similarity of triangles and other shapes. Use this to make inferences | U110 | |
| Prove similarity by showing that corresponding angles are equal or side lengths are in the same ratio | U551 | |
| Use formal geometric proof for the similarity of triangles | U887 | |
| Understand and apply relationships between linear, area and volume scale factor of mathematically similar solids | U110 | |

# Revision – Linear, Quadratic & other Graphs:

| Objective | Sparx Task | |
|---|---|---|
| Use a table of values to plot a linear function (include horizontal/vertical lines) | U741 | |
| Find the gradient of a line and use intercept to give and equation in the form y=mx+c | U741<br>U477 | |
| Draw and interpret parallel/perpendicular functions | U898 | |
| Find length and midpoint of a line segment | U933 | |
| Find the equations of a line when given two coordinates | U858 | |
| Plot straight line graphs from real life situations | U638 | |
| Plot dist/time and vel/time graphs and interpret gradients | U562<br>U462 | |
| Recognise linear, quadratic, cubic, reciprocal and circle graphs from shapes and functions | U593<br>U229<br>U980<br>U989 | |
| Generate coordinates and plot quadratic graphs | U989 | |
| Understand features of quadratic graphs and estimate solutions | U667 | |
| Draw graphs of simple cubics | U980 | |
| Draw reciprocal graph and circle centred on the origin | | |