### 1. 8 times table

<table>
<thead>
<tr>
<th>8 x 1 = 8</th>
<th>8 x 2 = 16</th>
<th>8 x 3 = 24</th>
<th>8 x 4 = 32</th>
<th>8 x 5 = 40</th>
<th>8 x 6 = 48</th>
<th>8 x 7 = 56</th>
<th>8 x 8 = 64</th>
<th>8 x 9 = 72</th>
<th>8 x 10 = 80</th>
<th>8 x 11 = 88</th>
<th>8 x 12 = 96</th>
</tr>
</thead>
</table>

### 2. Fractions

- **Repeated addition** – repeatedly adding the same number or amount, e.g.
  \[
  \frac{1}{5} + \frac{1}{5} + \frac{1}{5} = \frac{3}{5} 
  \]

- **Multiplying fractions** – multiplying the numerators and denominators separately, e.g.
  \[
  \frac{3}{5} \times \frac{2}{3} = \frac{6}{15} = \frac{2}{3} 
  \]

- **Reciprocal** – the multiplicative inverse of a number, e.g.
  the reciprocal of 5 is \(\frac{1}{5}\)

- Dividing by an amount is the same as multiplying by the reciprocal.

### 3. Axes and Coordinates

- **\(x\)-axis** – the axis that runs horizontally
- **\(y\)-axis** – the axis that runs vertically

**Quadrant** – one of four regions separated by the \(x\) and \(y\) axes

**Cartesian co-ordinates** – the ordered pair of \((x, y)\) to define a point in a quadrant

**Origin** – \((0,0)\)

### 4. Linear Graphs 1

- **Horizontal line** – parallel to the horizon and in the form \(y = a\)
- **Vertical line** – at a right angle to the horizontal plane
- **Gradient** – the measure of the steepness of a line
- **Parallel** – two lines which are the same distance apart and so have the same gradient
- **Constant** – a fixed value
- **Linear graph** – produces a straight line

### 5. Linear Graphs 2

- **Proportion** – the mathematical comparison between two numbers (when two ratios or fractions are equivalent, they are proportional)
- **\(y\)-intercept** – where a line crosses the \(y\)-axis
- **Table of values** – created to help plot a graph
- **Substitute** – where we replace a letter with a number
  \[
  y = mx + c \quad \text{this is often the form of a linear graph where } m \text{ is the gradient and } c \text{ is the } y \text{-intercept}
  \]
  \[
  \text{eg. } y = 3x + 7 \text{ has a gradient of } 3 \text{ and a } y \text{-intercept of } 7
  \]

### 6. Representing Data

- **Correlation** – a measure of the strength of the relationship between two variables
- **Line of best fit** – a line that shows the best estimate of the relationship between two variables
- **Outlier** – a result which lies beyond where most of the data is clustered
- **Discrete** – data which can only take certain values (i.e. data that can be counted e.g. number of people)
- **Continuous** – data which can take any value (i.e. data that can be measured e.g. the height of a person)
- **Frequency** – the number of times an event occurs