# Year 7 Strand 4

| Topic/Skill | Definition/Tips | Example |
|---|---|---|
| 1. Fraction | A mathematical expression representing the **division** of one integer by another.<br><br>Fractions are written as **two numbers separated by a horizontal line**. | $\frac{2}{7}$ is a 'proper' fraction.<br><br>$\frac{9}{4}$ is an 'improper' or 'top-heavy' fraction. |
| 2. Numerator | The **top** number of a fraction. | In the fraction $\frac{3}{5}$, 3 is the numerator. |
| 3. Denominator | The **bottom** number of a fraction. | In the fraction $\frac{3}{5}$, 5 is the denominator. |
| 4. Mixed Number | A number formed of both an **integer part** and a **fraction part**. | $3\frac{2}{5}$ is an example of a mixed number. |
| 5. Simplifying Fractions | **Divide the numerator and denominator by the highest common factor**. | $\frac{20}{45} = \frac{4}{9}$ |
| 6. Equivalent Fractions | Fractions which represent the **same value**. | $\frac{2}{5} = \frac{4}{10} = \frac{20}{50} = \frac{60}{150}$ $etc.$ |
| 7. Comparing Fractions | To compare fractions, they each need to be rewritten so that they have a **common denominator**.<br><br>**Ascending** means **smallest to biggest**.<br><br>**Descending** means **biggest to smallest**. | Put in to ascending order : $\frac{3}{4}, \frac{2}{3}, \frac{5}{6}, \frac{1}{2}$.<br><br>Equivalent: $\frac{9}{12}, \frac{8}{12}, \frac{10}{12}, \frac{6}{12}$<br><br>Correct order: $\frac{1}{2}, \frac{2}{3}, \frac{3}{4}, \frac{5}{6}$ |
| 8. Fraction of an Amount | **Divide** by the **bottom**, **times** by the **top** | Find $\frac{2}{5}$ of £60<br>$60 \div 5 = 12$<br>$12 \times 2 = 24$ |
| 9. Adding or Subtracting Fractions | Use equivalent fractions to change each fraction to the **common denominator**.<br>Then just **add or subtract the numerators** and keep the **denominator the same**. | $\frac{2}{3} + \frac{4}{5}$<br><br>$\frac{2}{3} = \frac{10}{15}$ $\frac{4}{5} = \frac{12}{15}$<br><br>$\frac{10}{15} + \frac{12}{15} = \frac{22}{15} = 1\frac{7}{15}$ |
| 10. Multiplying Fractions | **Multiply** the **numerators** together and **multiply** the **denominators** together. | $\frac{3}{8} \times \frac{2}{9} = \frac{6}{72} = \frac{1}{12}$ |
| 11. Dividing Fractions | **'Keep it, Flip it, Change it – KFC'**<br>Keep the first fraction the same<br>Flip the second fraction upside down<br>Change the divide to a multiply | $\frac{3}{4} \div \frac{5}{6} = \frac{3}{4} \times \frac{6}{5} = \frac{18}{20} = \frac{9}{10}$ |