UNIT 9 *Fractions and Percentages*   Overhead Slides

Overhead Slides

OS 9.1   *Fraction Revision - Addition*

Calculate:

1. $\dfrac{2}{7} + \dfrac{4}{7} =$

2. $\dfrac{5}{8} + \dfrac{4}{8} =$

3. $\dfrac{3}{4} + \dfrac{2}{3} =$

4. $\dfrac{5}{7} + \dfrac{2}{5} =$

OS 9.2 *Fraction Revision - Subtraction*

Calculate:

1. $\dfrac{5}{7} - \dfrac{2}{7}$ =

2. $\dfrac{5}{8} - \dfrac{3}{8}$ =

3. $\dfrac{3}{4} - \dfrac{1}{8}$ =

4. $\dfrac{5}{7} - \dfrac{2}{5}$ =

OS 9.3   *Fraction Revision - Multiplication*

Calculate:

1. $\dfrac{2}{3}$ of 24 =

2. $\dfrac{2}{5}$ of 18 =

3. $\dfrac{3}{5} \times \dfrac{2}{3}$ =

4. $\dfrac{3}{7} \times \dfrac{2}{5}$ =

OS 9.4   *Fraction Revision - Division*

Calculate:

1. $3 \div \dfrac{1}{4} \quad =$

2. $\dfrac{3}{4} \div \dfrac{2}{5} \quad =$

3. $1\dfrac{1}{2} \div \dfrac{3}{8} \quad =$

4. $1\dfrac{3}{7} \div \dfrac{2}{5} \quad =$

OS 9.5   *Fractions in Context 1*

1.   There are 72 matches in a box.

   $\dfrac{1}{8}$ of these matches are faulty.

   How many faulty matches are in the box?

   $\dfrac{1}{8}$ of 72   =

2.   There are 950 pupils in a school.

   $\dfrac{3}{5}$ of the pupils have school lunches.

   How many pupils have school lunches?
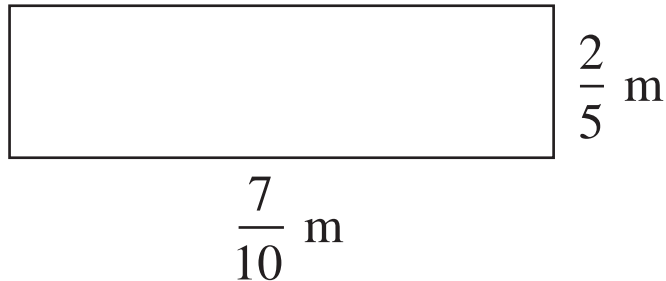
   $\dfrac{3}{5}$ of 950   =

OS 9.6   *Fractions in Context 2*

1. Calculate the *perimeter* and *area* of this rectangle:

$\dfrac{2}{5}$ m

$\dfrac{7}{10}$ m

Perimeter   =

Area   =

2. Hannah uses $\dfrac{3}{4}$ kg of sugar when making one cake.

She has $1\dfrac{1}{2}$ kg of sugar.

How many cakes can she make with this?

OS 9.7   *Conversion Table - Fractions and Percentages*

Complete this table for converting *fractions* and *percentages*:

Fraction	Percentage
$\dfrac{1}{2}$	
$\dfrac{1}{4}$	
$\dfrac{3}{4}$	
$\dfrac{1}{5}$	
$\dfrac{3}{5}$	
$\dfrac{7}{10}$	
$\dfrac{3}{100}$	
	7%
	80%
	$33\dfrac{1}{3}\%$
	40%
	35%

OS 9.8   *Finding Percentages*

1.   20%   of   £40   =

2.   60%   of   £42   =

3.   35%   of   40 kg   =

4.   25%   of   £84   =

OS 9.9   *Increasing with Percentages*

1.   Add 20% to £45.

                                   OR

        20% of £45 = | $100\% + 20\% = 120\%$

                      = | So multiply by 1.2

        45 +   = | $45 \times 1.2 =$

2.   Add 8% to £300.

                                     OR

        8% of £300 = | $100\% + 8\% =$

                      = | So multiply by

        £300 +   = | $300 \times$ $=$

OS 9.10   *Decreasing with Percentages*

1.   Decrease £80 by 10%.

                                            OR

        10% of £80 = | 100% − 10% = 90%

                         = | So multiply by 0.9

        £80 −   = | 80 × 0.9 =

2.   Decrease 400 m by 30%.

                                            OR

        30% of 400 = | 100% − 30% =

                         = | So multiply by

        400 −   = | 400 ×   =

OS 9.11

Percentage Increase and Decrease

$$Percentage\ Increase\ =\ \frac{\text{Increase}}{\text{Original}}\ \times\ 100$$

$$Percentage\ Decrease=\ \frac{\text{Decrease}}{\text{Original}}\ \times\ 100$$

1. The number of people on a bus *increases* from 25 to 30.

    Increase   =

    Percentage increase   =   ——— × 100

                           =

2. The number of pupils in a school *decreases* from 800 to 780.

    Decrease   =

    Percentage decrease =   ——— × 100

                           =

OS 9.12   *Reverse Percentage Problems*

$$Percentage\ Increase\ =\ \frac{\text{Increase}}{\text{Original}}\ \times\ 100$$

$$Percentage\ Decrease=\ \frac{\text{Decrease}}{\text{Original}}\ \times\ 100$$

1.   When VAT at $17\frac{1}{2}\%$ is added to the cost of a stereo the price is £176.25. What was the original price?

   Original price $\xrightarrow{\times\ 1.175}$ £176.25

                    $\xleftarrow{\div\ 1.175}$ £176.25

2.   A computer costs £940 including $17\frac{1}{2}\%$ VAT. What was its price before VAT was added?

   Original price $\longrightarrow$

                    $\longleftarrow$

3.   A rope shrinks so that its length is reduced by 2% to 12.74 m. What was the original length of the rope?

   Original length $\longrightarrow$

                    $\longleftarrow$