4. A Hi-speed usb has a download rate of 3.84×10^9 bits per second. 1 byte = 8 bits.

Calculate the download rate in bytes per second. Give your answer in scientific notation (standard form). [3]

4. Solve

$$\frac{x}{4} + \frac{13}{20} = \frac{x}{5}$$

[4]

Equation after applying Lowest Common Denominator

—— + —— = ——

Equation after removing Denominators

+ =

Final Solution

x =

4. (a) Solve the inequality below. [3]

$8m - 7 \geq 5m + 14$

Inequality after rearranging Constants and Variables

≥

Inequality after simplifying Constants and Variables

≥

(b) Show your solution to (a) on a number line. [2]

3. Simplify:

(a) $\frac{x}{5} + \frac{7x}{3}$ [2]

Fraction after applying Lowest Common Denominator

—— + ——

Simplified Fraction

——

LIVEWORKSHEETS

(b) $\frac{45g}{8} \div \frac{15g^2}{24}$ [3]

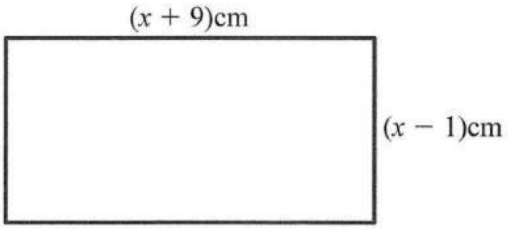
Fraction after applying Reciprocal

—— × ——

Simplified Fraction

——

4. A rectangle is shown below.



The length of the rectangle is $(x + 9)$ cm. The width of the rectangle is $(x - 1)$ cm.

(a) Form an expression for the perimeter of the rectangle. [1]

(b) Given that the perimeter is 64 cm, form an equation and find the value of x. [4]

Perimeter Equation

=

Solution of x

x =

(c) State the width of the rectangle. [1]

Width =

4. A fisherman has 10 groupers for sale.

The mean weight of the 10 groupers is 14 kg.

He sells two groupers that weigh a total of 32 kg.

Find the mean weight of the remaining groupers. [3]

Total Weight = kg

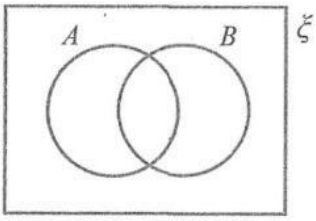
Mean Weight of The Eight Groupers = kg

LIVEWORKSHEETS

4. Let $\xi = \{x \text{ is a natural number}: x \leq 10\}$

$A = \{\text{even numbers}\}$

$B = \{\text{factors of } 12\}$



(a) Copy and complete the Venn diagram illustrating the sets above. [4]

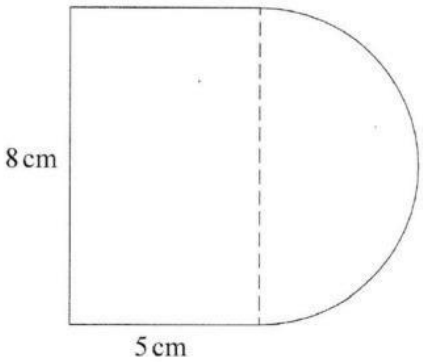
(b) List the elements of the following sets.

(i) $A \cap B$ [1]

(ii) A' [1]

(c) Find $n(A \cup B)$. [1]

4.



NOT TO SCALE

The compound figure above comprises a rectangle and a semicircle.

Using $\pi \approx 3.14$ where necessary, find:

(a) the total area of the figure, [4]

Area of Rectangle = cm^2

Area of Semi-Circle = cm^2

Total Area = cm^2

(b) the total perimeter of the figure. [3]

Perimeter of Rectangle Portion = cm

Perimeter of Semi-Circle Arc = cm

Total Perimeter = cm

LIVEWORKSHEETS