EXERCISES ON AREA AND VOLUME WITH METRIC UNIT CONVERSIONS

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Tolentino Tuition, Grade 5 *Mathematics*

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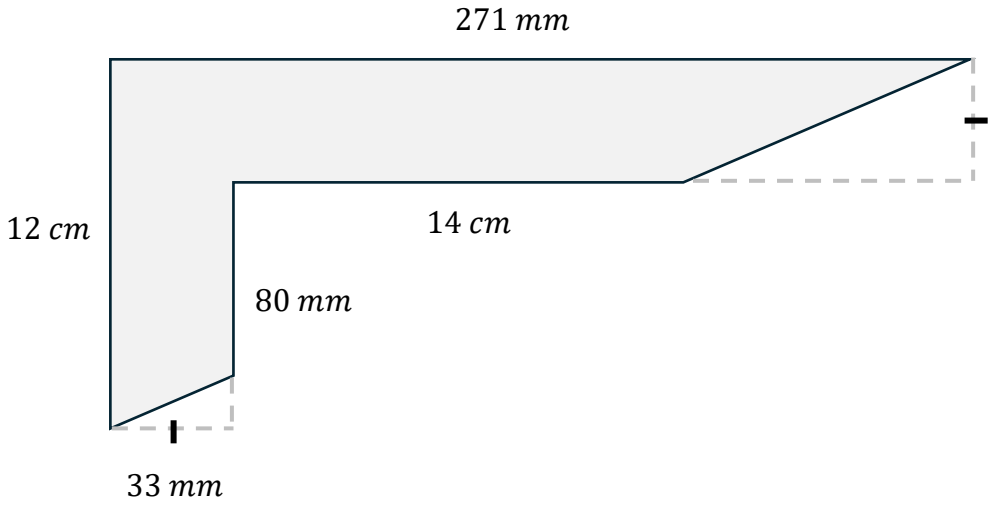
CONTENTS

EXERCISE 1

Lanette wishes to order a piece of aluminium from a manufacturer, which has the dimensions shown below.

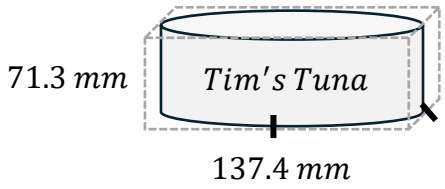


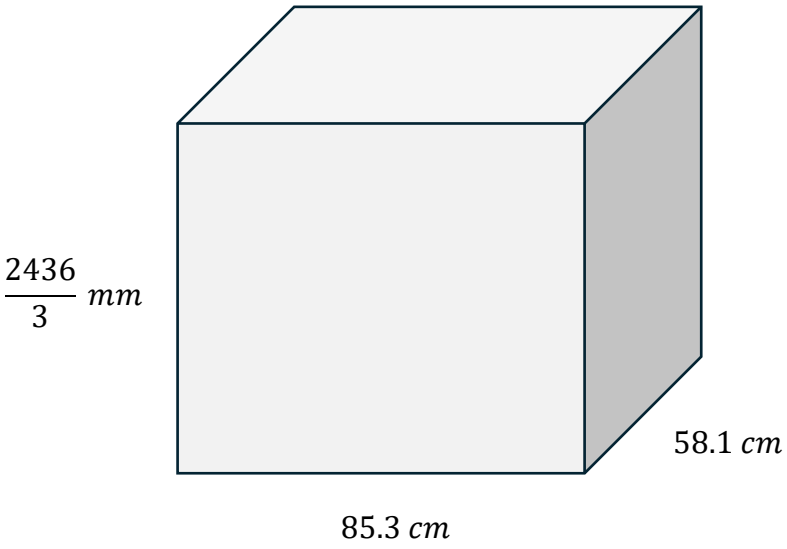
To construct custom pieces, the manufacturer charges 35 Australian dollars per *square centimetre* of aluminium used, plus an additional 40 Australian dollar labour fee per hour taken to make the piece.

If 1 Japanese Yen = 0.0091 Australian Dollars, and the manufacturer took $1\frac{1}{2}$ hours to make the piece, please determine how much the manufacturer charged Lanette to construct the sign in Japanese Yen.

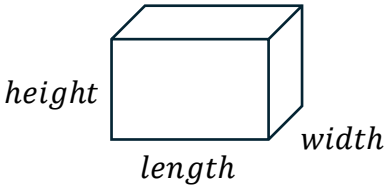
EXERCISE 2

Below are the approximate dimensions of a can of tuna sold by *Tim's Tuna*, and the exact dimensions of a packing box.





Given that the volume (V) of a rectangular prism is given by $V = length \times width \times height$,

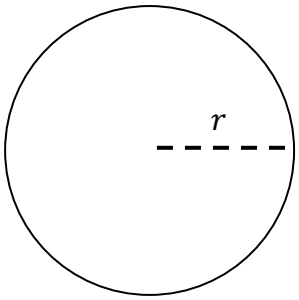


please determine the maximum number of tuna cans that will fit into the packing box.

EXERCISE 3

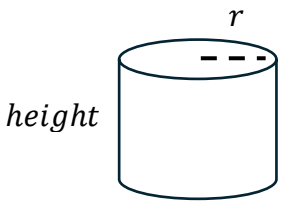
The area of a circle (A) is given by

$A = \pi \times r^2$, where $\pi \approx 3.14$, and r is the radius of the circle.



The volume of a cylinder (V) is given by

$V = \pi \times r^2 \times height$



1. What is the length of the radius of a can of *Tim's Tuna* from **Exercise 1** in cm?

Challenge

1. What is the volume of a can of *Tim's Tuna* in cubic centimetres? You may use a calculator, and round your answer to two decimal places.

2. What is the difference between the can's actual volume and its approximate volume that you calculated in Exercise 2?

EXERCISE 3

Challenge

3. Does knowing the can's actual volume change your answer to Exercise 2? Was your approximate in Exercise 2 a good approximate?