

# Mathematics for Work and Everyday Life, Grade 12 (MEL4E)

## Course Description

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**Course Title:** Mathematics for Work and  
Everyday Life  
**Course Code:** MEL4E  
**Grade:** 12

**Course Type:** Workplace  
**Credit Value:** 1.0  
**Prerequisite:** MEL3E

- **This course builds on** your basic knowledge and understanding of mathematics
- **This can lead you to many careers such as:** Carpentry, Dental Hygienist, Spa Massage Therapist, Women’s Shelter Supervisor

**Official Ontario Ministry of Education secondary curriculum available here:**  
<http://www.edu.gov.on.ca/eng/curriculum/secondary/math.html>

### **This course focuses on three main strands:**

Reasoning with Data

Personal Finance

Applications of Measurement

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### Reasoning with data

Students will learn how to display statistical data in various forms and interpret the meaning of those graphs. They will investigate probability and use it to make predictions, such as the probability of picking a jack of hearts from a deck of cards, or buying the winning lottery ticket.

**Problem:** Michelle's sibling says to her that they are going to buy 9 lottery tickets because the probability of winning is  $\frac{1}{9}$  and therefore they have to win. What should Michelle say to her sibling?

### Solution:

Michelle should say that a  $\frac{1}{9}$  probability does not mean you will always win buying 9 tickets.

Probability of not winning is  $\frac{8}{9}$

So probability of not winning on 9 tickets

$$\begin{aligned} &= \left(\frac{8}{9}\right)^9 \\ &= 34.6\% \end{aligned}$$

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### Personal finance:

Students will learn to create and modify a budget. They will also learn about the costs associated with renting and owning accommodations, and how to fill out a personal tax return.

**Problem:** : Jill wants to be able to get a new dog in 6 months but will need \$750 in savings. Based on the following incomes and expenses she has every month will she have enough saved up for the dog? What else should Jill consider?

Salary	\$2000
Rent	\$800
Hydro	\$250
Food	\$300
Car Payments	\$200
Internet/Phone	\$100
Entertainment	\$100
Misc	\$100

### Solution:

<u>Income</u>		<u>Expenses</u>	
Salary	\$2 000	Rent	\$800
		Hydro	\$250
		Food	\$300
		Car Payments	\$200
		Internet/Phone	\$100
		Entertainment	\$100
		Misc	\$100
Totals	\$2 000		\$1 850

She can save \$150 a month.

$$6 \times 150 = \$750$$

∴ she will have exactly enough money saved.

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### Applications of measurement:

Students will learn how to convert imperial and metric units to solve problems like: How many centimeters are there in 3 inches? They will apply measurement concepts and skills to solve problems in measurement and design such as construction scale drawings. They will also use proportional reasoning (ratios) to solve everyday problems, such as determining unit costs of items to decide whether it is a better deal to buy 5 items for \$6.49 or 1 item at \$1.35.

**Problem:** On your lunch break you head out to the store to pick up your favorite drink. When you arrive you notice that you can get 500 ml for \$2.99 or 750 ml for \$4.29. Which of the two options is the better deal?

### Solution:

$$\begin{array}{l} \underline{500 \text{ ml}} \\ \text{Unit price} \\ 2.99 \div 500 \\ = 0.00598 \end{array}$$

$$\begin{array}{l} \underline{750 \text{ ml}} \\ \text{Unit price} \\ 4.29 \div 750 \\ = 0.00572 \end{array}$$

∴ the 750ml is the better deal  
as it has a lower unit price.