

Skills for Success Curriculum Resource Cover Page

Organization

CESBA

Curriculum Resource

Skills for Success: Retail Math

This course has three sections, determined by OALCF level. Instructors wishing to show progress can guide each learner to complete each level. This course is modular and can be delivered/instructed in parts with only one section used, based on learner need and level. What areas of this course a learner completes is at the discretion of the instructor.

Part 1 (OALCF level 1) of this course contains lessons on counting and making change, using a calculator, basic math operations, measuring time, and writing sums of money in decimal form.

Part 2 (OALCF level 2) of this course contains lessons on rounding numbers, calculating work hours and pay stubs, understanding fractions, using percentages in the workplace, and calculating decimals.

Part 3 (OALCF level 3) of this course contains lessons on averages, ratios, and using retail formulas.

This course design provides learners entering the workplace with the math skills needed to work effectively but can also be useful to secondary school students entering co-operative placements, or learners looking to improve numeracy skills for independence.

OALCF Alignment

Competency	Task Group	Level(s)
Competency A -Find and Use Information	A1. Read continuous text	2

Competency A -Find and Use Information	A3. Extract information from films, broadcasts, and presentations	N/A
Competency B - Communicate Ideas and Information	B2. Write continuous text	1
Competency C - Understand and Use Numbers	C1. Manage money	1, 2 and 3
Competency C - Understand and Use Numbers	C2. Manage time	1 and 2
Competency C - Understand and Use Numbers	C4. Manage data	1
Competency D - Use Digital Technology	N/A	2
Competency E - Manage Learning	N/A	1

Goal Paths (check all that apply)

- Employment
 Postsecondary
 Apprenticeship
 Independence
 Secondary School Credit

Embedded Skills for Success (check all that apply)

- | | |
|--|---|
| <input checked="" type="checkbox"/> Adaptability | <input checked="" type="checkbox"/> Numeracy |
| <input type="checkbox"/> Collaboration | <input checked="" type="checkbox"/> Problem Solving |
| <input type="checkbox"/> Communication | <input checked="" type="checkbox"/> Reading |
| <input type="checkbox"/> Creativity and innovation | <input checked="" type="checkbox"/> Writing |
| <input checked="" type="checkbox"/> Digital | |

Notes:

Suggested Milestones for this course – Milestones 57 or 58

Suggested milestones by module of course.

Part 1 – OALCF level 1 milestones – Milestone 14, Milestone 37, Milestone 217

Part 2 – OALCF level 2 milestones – Milestone 39, Milestone 42

Part 3 – OALCF level 3 milestone – Milestone 40

The logo for CESBA, with the letters 'cesba' in a lowercase, sans-serif font. The 'c' is blue, 'e' is red, 's' is blue, 'b' is blue, and 'a' is blue. To the right of the text is a red sunburst icon.

Retail Math

Includes Answer Guide

Pathway Pillar – Workplace Literacy

Project Manager: Charlotte Parliament, CESBA Program Manager

Project Coordinator: Debera Flynn

Project Consultants: Angela Williams and Susan Boyd

Project Support: Paul Cox, CESBA Executive Director

Thank you to the many CESBA members that supported the project by reviewing curriculum resources.

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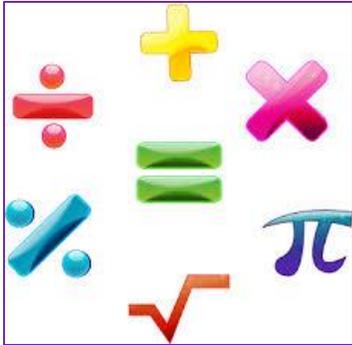
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Skills for Success: Retail Math

Introduction to Numeracy Skills for Retail and Sales



Many jobs require math skills. This course will cover some of the workplace math skills you will need when working in customer service.

Working in retail there is math that you might need to know. For example: if you work a cash register, you will need to know how to make change or balance a cash drawer. If you are on the sales floor, you might need to know how much a sale item is after a discount for a customer. If you help with inventory or counting products, you may need to know how to calculate averages.

A lot of people have difficulty with math. Math can be scary to some people. In this course, you will be learning workplace math at your own pace. Remember everyone learns differently and sometimes it takes a while to find out how you learn best.

Math can be a tricky subject, and if you need help with any of these lessons, please ask your instructor.

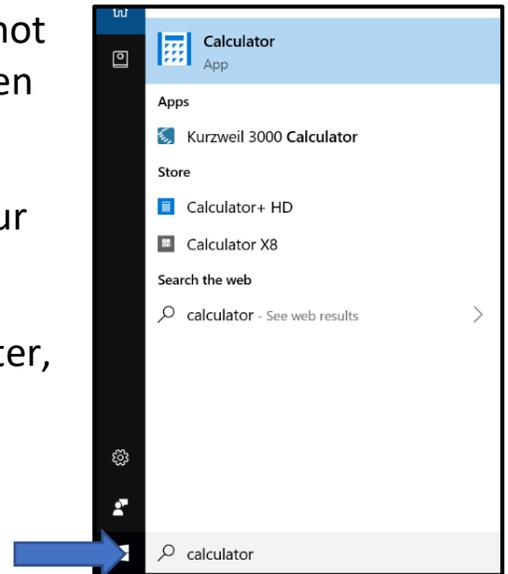
Part 1 (OALCF Level 1)

Lesson 1: Using a Calculator

Everyone uses a calculator these days. If you do not have a small calculator that you carry around, then you are probably using one on your phone.

There is also a calculator on the computers in your classroom.

If you need to find the calculator on your computer, just click in the search box beside your start or windows button located at the far left of your computer's Task Bar and type **Calculator**.



At some jobs, you are not allowed to have your phone when working, so ask your boss if you can have a pocket calculator with you. If you need a calculator for workplace tasks, make sure that you explain that to the person in charge.

Knowing how to use a calculator and having one with you can help you if you find workplace math challenging (difficult, bit of a struggle).

In this course, you may use a calculator for lessons and activities.

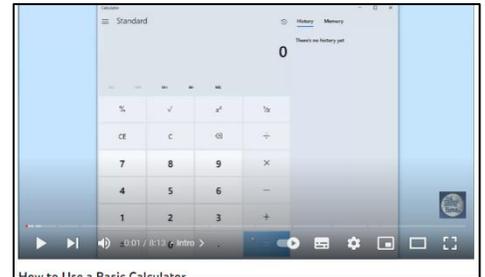
Activity 1: Getting Information from a Video

Open the calculator on your computer or phone or ask for a basic calculator from your instructor. Have one ready while you are watching the following video.

Open your Internet browser (Google Chrome, Safari, Microsoft Edge, etc.) and type the following site into your address bar:

<https://www.youtube.com/watch?v=x-2HjO4iGXI>

or go to YouTube.com and enter: **How to Use a Basic Calculator by Frank LoSchiavo** in the YouTube search box.



Using a Calculator when Working with Coins



Coin values can be added on a calculator using decimals. If you are adding change on a calculator, use a decimal. Coins are part of a dollar. A dollar is a whole number. It is the number 1 on a calculator.

A quarter is 0.25 on a calculator.

A dime is 0.10 on a calculator.

A nickel is 0.05 on a calculator.

A dollar and a quarter would be 1.25 on a calculator.

Five dollars and 45 cents would be 5.45 on a calculator.

Activity 2: Showing Money in Decimal Form

On the lines below, write how the amount given is shown on a calculator.

The first 2 are done for you.

1. Two dollars and fifty cents - 1.25

2. Sixty cents - 0.60

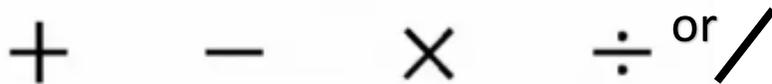
3. Twelve dollars and fifteen cents _____

4. Ten cents _____

5. One dollar and seventy-five cents _____
6. Forty cents _____
7. Four dollars and twenty-five cents _____
8. Thirty cents _____

Basic Math Operations

There are four basic math operations. Addition, subtracting, multiplication and division.



Addition and Subtraction

We use addition and subtraction to solve many real-world math questions. When we **add**, we are combining, or increasing. When we **subtract**, we are taking away, or decreasing.

Addition and subtraction are the opposite of each other. One adds value(s) and the other takes it away.

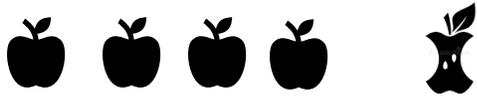
If you have 5 apples and someone gives you another apple, you add the new apple to the 5 to get the new total (or sum).



When you add the apples, you can do it in any order.

$$5+1 = 6, \text{ or } 1 + 5 = 6$$

If you have 5 apples and someone eats one of your apples, you will take the apple that has been eaten away to get the new total (or difference).



When you subtract, use the starting amount, and then do your subtraction.

Here, you would start with 5 and subtract 1 ($5-1=4$) to get the right answer.

Activity 3: Practicing Addition and Subtraction on a Calculator

Try these basic math operations on your calculator. The first one is completed for you.

1. $0.25 - 0.10 = 0.15$

2. $0.25 + 0.05 =$ _____

3. $2.00 + 0.25 + 0.10 =$ _____

4. $2.00 - 0.50 =$ _____

5. $10.00 + 1.00 + 0.05 =$ _____

6. $5.00 - 1.75 - 0.10 =$ _____

7. $3.95 + 2.45 =$ _____

8. $0.35 - 0.20 =$ _____

9. $1.40 - 0.25 =$ _____

Multiplication and Division

Multiplication and division are also opposite actions from each other. Multiplication is a way to do repeated addition or to add repeatedly (over and over). Division is a way to subtract repeatedly.

If you have 6 boxes of 20 books, you could add $20+20+20+20+20+20$ to find the total but it is faster to multiply the number of boxes by the number of books in each box **6×20** to get the same answer.

If you have 100 books split into 10 boxes, you could subtract 10 to find out how many are in each box until you get to zero

$$100-10 = 90$$

$$90- 10 = 80$$

$$80 - 10 = 70$$

$$70 - 10 = 60$$

$$60 -10 = 50$$

$$50 - 10 = 40$$

$$40 - 10 = 30$$

$$30 - 10 = 20$$

$$20 - 10 = 10$$

$$10-10=0$$

To get the answer, you could count the number of times you subtracted 10 from 100.

100, 90, 80, 70, 60, 50, 40, 30, 20, 10

to discover there are 10 in each box or, you can do it faster and divide 100 by 10 **$100 \div 10$** to get the answer.

Activity 4: Practicing Multiplication and Division

1. $0.25 \times 4 =$ _____

2. $1 \div 0.25 =$ _____

3. $1 \div 4 =$ _____

4. $0.10 \times 20 =$ _____

5. $2.00 \div 20 =$ _____

6. $0.05 \times 100 =$ _____

7. $5.00 \div 0.05 =$ _____

8. $1.00 \div 0.10 =$ _____

Lesson 2: Working with Change

If you are working at a cash register, the register will tell you the amount of change to return to the customer once they have paid. Your job will be to enter the right amount and then give the right amount of change to the customer. This lesson will offer some activities and tips to help with this job.

Counting Change

When giving change to a customer, start with the largest amount of money and work your way down adding the change as you go. For example: You owe a customer \$12.55. Start with the \$10 then the \$2, then add the two quarters and then the nickel.

Activity 1: Practicing Counting By 2, 5, 10 and 25

Count by 2s

2, ____, ____, ____, ____, 12, ____, ____, ____, 20, ____, ____, ____

Count by 5s

5, 10, ____, 20, ____, ____, 35, ____, ____, ____, 55, ____, ____, ____

Count by 10s

10, ____, ____, 40, 50, ____, 70

Count by 25s

25, ____, ____, ____, ____, 150

Quarters go up by 25. Write in the value of each coin as you add one to another.



Dimes are counted by 10s. Write in the amount of each dime as you add one to another.





Nickels are counted by 5s. Write the value of each nickel as you count them. How many more nickels would you need to make \$1.00? _____





A \$1 coin (loonie) is counted by 1s. Write the total coins below.



A \$2 coin (twoonie) is counted by 2s. Write the total of the coins below.



Activity 2: Counting Coins

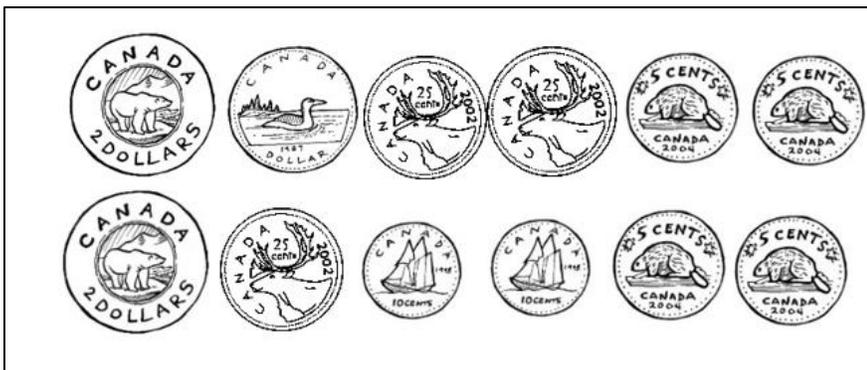
Total the coins shown below.



= _____



= _____



= _____

Activity 3: Counting Money Practice

Count the money below. This is change you are giving your customer. Start with the largest amount, then the next largest, and so on.



Activity 4: Making Change

Look at the amounts on the cash registers below and write the change you would give the customer. The first one has been completed.



1 ten-dollar bill, 2 twoonies, 1 quarter and 1 dime







Activity 5: Using a Calculator and Making Change

Complete the subtraction exercises and list what dollars and cents you would use for the difference (the change for the customer). The first one is done for you.

1. $\$10.00 - \$5.50 = \$4.50$

2 twoonies and 2 quarters

2. $\$20.00 - \$4.25 =$ _____

3. $\$1.00 - \$0.40 =$ _____

4. $\$4.00 - \$3.80 =$ _____

5. $\$10.00 - \$6.95 =$ _____

Lesson 3: Counting a Cash Drawer

Read the following steps for counting a cash drawer.

1. Have a calculator to help you add up your cash.
2. Have paper or a form ready so you can write the totals out for the bills and the change as you add it up.
3. Start with the largest bills first. Count them out and lay them on the counter, all facing the same way. Write down the amount. You will need to multiply their value by the amount of each bill that you have.



Example:

$$\$50 \times 2 = \$100$$



$$\$20 \times 10 = \$200$$



$$\$10 \times 6 = \$60$$



$$\$5 \times 13 = \$65$$



4. Write down the total of any coin rolls you have.

Example:

$$1 \text{ Twonie roll} = \$50.00$$



1 Loonie roll = \$25.00



1 Quarter roll = \$10.00



3 Dime rolls = 3 x \$5.00 = \$15.00



1 Nickel roll = \$2.00



4. Count the loose change. Keep the change in its own coin compartment (area) to keep track of it. Write down the totals as you go.

Example:

$$\$2 \times 6 = 12.00$$



$$\$1 \times 10 = \$10.00$$



$$\$0.25 \times 8 = \$2.00$$



$$\$0.10 \times 4 = \$0.40$$



$$\$0.05 \times 5 = \$0.25$$



5. Double check your numbers.

6. Subtract your starting cash total (the float).

7. Match the amount against total sales for the day.

Add in any credit card or bank card purchases from the day as well.

Activity 1: Totaling a Cash Drawer

Fill in the totals below to find the total cash sales for the day at Value Mart.

The counts are filled in for you. Multiply each row and add the totals from each part.

Note: The cash register had a **starting float of \$100.00** at the beginning of the day.

Cash drawer count sheet

Date: 02/24/23

Name: Jessica Lopez

Bills	Total
\$100 x 1	
\$50 x 1	
\$20 x 6	
\$10 x 13	
\$5 x 20	
Total bills	
Coin rolls	Total
Twoonies (50) x 1	
Loonies (25) x 0	
Quarters (10) x 1	
Dimes (5) x 2	
Nickels (2) x 0	
Total rolls	
Loose Change	Total
\$2 x 1	
\$1 x 10	
\$0.25 x 4	
\$0.10 x 6	
\$0.05 x 10	
Total change	
Cash Total (bills + rolls + change)	
Starting Float	
Final Total	=

Activity 2: Close of Day Report

Look at the end of day cash receipt below and answer the following questions.

1. Did your cash count match the cash sales from the day? Yes, or No?

2. What dollar amount of the day's sales were credit card payments?

3. What were the total sales of the day? _____

4. At what time was this report completed? _____

VALUE MART	
12 Smith Street, Almonte, ON K0A1A0 www.seethevalue.com 613-555-5555	
CLOSE CASH REPORT	
02/24/23	
Register:	4
Report time:	08:12PM
Opened by:	J.Lopez
Closed by:	J.Lopez
TENDERED PAYMENTS	
Cash	\$484.10
Visa	\$345.60
Mastercard	\$701.25
Debit	\$312.00
REFUND PAYMENTS	
	\$0.00
TOTAL PAYMENTS	
	\$1,848.35

Lesson 4: Measuring Time



To double check your pay stub and understand a schedule showing work hours, it is first important to understand time.

In Canada, time is split into AM and PM. AM is from a Latin term that means before midday. PM is from a Latin term that means after midday.

12am is midnight because it starts the first minute of the morning.
12pm is noon because it starts the first minute of the afternoon.

Starting at 12 is like starting at **zero** because it begins a new time of day.

There are 60 minutes in an hour.

When adding and subtracting time, we need to remember that **60** is the number of minutes in an hour.

If you are reading a schedule, you may have times that go over or under the hour mark.



When you are using a calculator to add up your work hours, a half hour is entered as **0.5** hours. Because it is half of 60 minutes.



Fifteen minutes is a quarter of an hour (15 minutes x 4 = 60 minutes), so it is entered as **0.25**.



45 minutes is 3 quarters of an hour, so it is entered as **0.75** hours on a pay cheque (3×0.25).

For example, if you start at 4pm and work until 10:30pm. First subtract the hours 4 and 10, like so **$10 - 4 = 6$** .

Then, add the minutes. Here, we need to add the half hours, so **$6 + 0.5 = 6.5$** . The shift is 6.5 hours long.

If you work from 10am to 4:30pm, remember the PM hours (midday) start at 12pm.

10am to 12pm is 2 hours. 12pm (zero) to 4:30 pm is 4.5 hours. **$2 + 4.5 = 6.5$** hours total.

*Note: This will be explored more in Part 2 of this course.

Activity 1: How Much Time has Passed

1. Diego bets Ming that he can eat a whole large pizza in under 5 minutes.

He starts eating the pizza at 6:15pm and finishes at 6:25pm.



Did he finish it in time? _____
How long did it take him to eat the pizza?

2. Look at the digital clocks below and write how much time has passed between them. *Remember 12pm starts the afternoon so it is like starting at zero when adding.



_____ hours ____ minutes

3. Jen works from 10:00am to 3:00pm. How many hours does she work in total? _____

4. On clocks, the big hand (longer) shows minutes, and the smaller hand (shorter) shows the hours. How much time has passed between these clocks (both times are AM)? _____



5. You have a project due at **4pm**. It will take you 3 hours.



If you start at 11:00 am, will you be done in time? YES or NO

What time will you be finished? _____

6. How much time has passed by between these two times?



Review: Test Your Knowledge

Look at the table below and answer the questions. The first one is done for you.

Employee Name	Monday, October 23rd	
Carla	12:00pm	4:30pm
Jin	8:00am	12:00pm
Sam	4:30pm	10:30pm
Winter	6:00am	11:15am

1. How many hours is Carla working on Monday? *4.5 hours*
2. How many hours is Sam working on Monday? _____
3. How many hours is Winter working on Monday? _____
4. How many hours is Jin working on Monday? _____



Congratulations you have completed Part 1 of this Retail Math Course

Skills for Success: Retail Math - Part 2 (OALCF Level 2)

Lesson 1: Rounding Numbers

Rounding is a way of making numbers simpler and easier to understand and can help when you quickly need to add or subtract amounts.

Rounding can be used when you need an idea of how much money you need for a purchase, for example, when you are on a budget at the grocery store. You can use it to help a customer estimate costs as well.

In 2023, at the time this was written, **38,597,803** (38 million, five hundred and ninety-seven thousand, eight hundred and three) people lived in Canada but that number changes every day. You probably will never need to know or tell someone the exact amount of people who live in your country, so it is okay to round the number. To find out how to do that, read the section below.

When rounding, first find the “round-off” digit. The round-off digit is the place value of the number that you are rounding. For example, if you want to round a number to the nearest ten, the round-off digit is the number in the tens’ place. If you want to round a number to the nearest hundred, the round-off digit is in the hundreds’ place.

Please see the chart below if you want a review of place value.

Decimal Place Value Chart													
Millions	Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones	Decimal point ←	Tenths	Hundredths	Thousandth	Ten-Thousandths	Hundred-Thousandth	Millionths
Whole part							•	Decimal part					

If the number you need to round is 3,487, and you want to round it to the hundreds' place, perform the following steps:

3,487

Look at the number to the right of the round-off digit (underlined). If that number is less than 5, do not change the round-off digit. If that number is 5 or more, add one to the round-off digit.

In the example, the number to the right (in the tens' place) is 8. This means that you round the number in the hundreds' place one higher.



3487 is closer to 3500 than 3400.

3400 3500

3,487 becomes 3,500

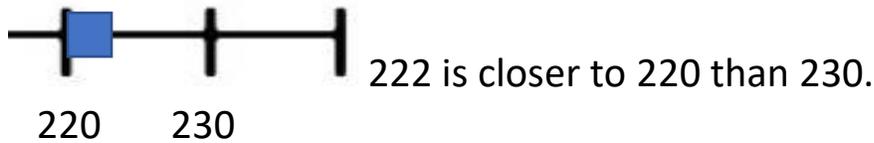
You may notice when rounding that you must change all the digits to the right of the round-off place to zeros.

If the number that you need to round is 222 and you want to round it to the nearest tens place, perform the following steps.

222

Look at the number to the right of the round-off digit (underlined). If that number is less than 5, do not change the round-off digit. If that number is 5 or more, add one to the round-off digit.

In the example above, the number to the right (in the ones' place) is less than 5. This means the number in the tens' place stays the same.



222 becomes 220.

It can be difficult to round when working with larger numbers, like the population of Canada. For this example, because the number will change every day, we are going to round the number to the hundred thousand's place.

38,597,803

Since the number to the right of the hundred thousand's place is 9, which is more than 5, the number in the hundred thousand's place will go up by one.



The population of Canada is approximately 38,600,000 people.

Activity 1: Rounding Numbers

1. Round the following numbers to the tens' place

56 _____ 438 _____ 107 _____ 42 _____ 319 _____

2. Round the following numbers to the thousands' place

1,236 _____ 20,309 _____ 165,999 _____ 81,700 _____

Rounding Decimals

When you are working with money or just want a fewer number of decimals, you will sometimes need to round to the nearest decimal

place. If it is money, you will want to round to the hundredths (the second number to the right of the decimal).

Look at the decimal place you wish to round. If the number to the right of that number is 5 or higher then round the number up one and drop the numbers after it to the right. If it is less than 5, keep the number the same and drop the other numbers.

Example:

Rounding to hundredths
Number to the right is higher than 5

3.5673

Number becomes 3.57

Rounding to hundredths
Number to the right is lower than 5

3.5625

Number becomes 3.56

Activity 2: Rounding Practice

You and 6 other co-workers win \$50.00 on the weekly lotto. How much would each worker get as a prize? Use your calculator to divide and then determine the money value by rounding to the hundredths place. Include a dollar sign.

Activity 3: Rounding Decimals



Rounding decimals is a little different than rounding whole numbers. The big difference is that instead of changing the numbers to the right of the place you are rounding to zeros; you instead simply drop those numbers (remove them).

Open your web browser, and type in the following web address:

http://www.learnalberta.ca/content/kes/pdf/or_cf_math_num_c_04_rounddec.pdf

Print out this exercise, read the lesson, complete the activities, and hand them in to be marked with this module.

Activity 4: Using Rounding at the Store

You are grocery shopping and need to buy five things. You only have \$20.00. Round each item you need to the nearest dollar on the line beside the item, so you can decide if you can afford all five items.

Shopping List	
Eggs \$2.79	_____
Milk \$4.19	_____
Bread \$2.99	_____
Banana \$0.89	_____
Hamburger \$6.79	

Total from rounding to nearest dollar: _____

Do you have enough to buy these items? **YES** or **NO**

Lesson 2: Adding Hours in a Schedule

An hour is 60 minutes. When you add time on a calculator you can divide the minutes by 60 to get the right decimal amount to use for checking your pay stub. This needs to be done because decimals and percentages are calculated out of 100 not out of 60.

For example: Jin works 5 hours and 12 minutes on Saturday.

12 divided by 60 is 0.2 or 20 percent of the hour.

Jin has worked 5.2 hours on Saturday. He can multiply this by the \$16.00 he makes per hour to find out what he earned this day.

$$5.2 \times \$16.00 = \$83.20$$

Activity 1: Practice Dividing Minutes by 60

Divide the following minutes by 60. Round each answer to the hundredths place (2 to the right of the decimal).

For example: 12 minutes \div 60 (minutes in an hour) = 0.2

1. 15 minutes _____

2. 17 minutes _____

3. 35 minutes _____

4. 45 minutes _____

5. 50 minutes _____

Activity 2: Adding Time in a Schedule

Look at the 2-week schedule and calculate the number of hours worked by Joe Example.

Joe Example Value Mart Clerk Supervisor	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
03/08/21 -03/14/21						8am-3:30pm	2pm-8pm
03/15/21 -03/21/21						8am-3:30pm	2pm-8pm

Joe gets an unpaid half hour for lunch on each day that he works 6 hours or more.

1. Number of days worked per week _____ x 0.5 = _____

2. Number of hours worked from 03/08/21-03/21/21 subtracting unpaid lunch time.

Total = _____

3. How many hours will Joe Example be paid for on his pay cheque?

Checking a Pay Stub



You use multiplication to determine salary. You use multiplication to check your hours and work wages.

At your job, your pay stub will have the number of hours worked and how much your pay is per hour.

There will also be deductions (money that is taken off or subtracted from your pay for different reasons). You may have money deducted for taxes, union dues, or unemployment insurance, etc.

Keep track of the hours you work and always check your pay stubs to make sure they match your records.

To determine your wage, the first step is to take the number of hours worked and then multiply it by your hourly wage.

Example: 30 hours x \$19.50 an hour = \$585.00

Then total all the deductions and subtract them from your pay.

Your pay before deductions is your **gross pay**. Your pay after deductions is your **net pay**. The net pay is the amount you will receive from your employer.

Here is an example of a pay cheque:

Value Mart 12 Example Lane Anycity, ON, K9L1G8		Pay Group: Cash Supervisor Pay Begin Date: 03/08/21 Pay End Date: 03/21/21		Deductions							
Name: Joe Example Your address, ON		Employee #:123 Pay Rate: \$19.50 Hourly		<u>Description</u>							
<u>Description</u>	<u>Rate</u>	<u>Hours</u>	<u>Earnings</u>	<u>YTD Hours</u>	<u>YTD Earnings</u>						
Regular Earnings	19.50	25	487.50	96	1,872						
Current: 487.50		Deductions: 56.03		Total Pay: _____							
				<table border="1"> <tr> <td>CPP</td> <td>5.65</td> </tr> <tr> <td>EI</td> <td>4.60</td> </tr> <tr> <td>Income Tax</td> <td>45.78</td> </tr> </table>		CPP	5.65	EI	4.60	Income Tax	45.78
CPP	5.65										
EI	4.60										
Income Tax	45.78										



Activity 3: Reading a Pay stub

Joe Example gets paid bi-weekly, which means he gets a pay every two weeks.

Please answer the following questions, using the pay stub above.

1) Fill in the total pay on Joe's pay stub (remember to subtract the deductions from the current total)

2) What is the pay period for this pay stub?

3) How many hours did Joe Example work during this time?

4) What is Joe Example's hourly wage? _____

5) How much money has Joe Example made this year (YTD) with Value Mart? _____

Calculating Salary



You use multiplication to determine salary.

Daily means once a day. There are **365 days in a year.**

Weekly means once a week. There are **52 weeks in a year.**

To determine, what someone earns in a **day**, multiply the wage by the hours worked that day.

For example: Leilani works 6 hours at \$19.50 an hour.

Daily wage = hourly rate x number of hours

$$6 \times \$19.50 = \$117.00$$

To determine how much someone earns in a **week**, multiply the daily hourly wage by the number of hours worked that week.

For example: Leilani works 30 hours a week at \$19.50 an hour.

$$30 \times \$19.50 = \$585.00$$

To determine how much someone makes a **year**, multiply the weekly salary by 52. There are 52 weeks in a year.

For example: We now know Leilani makes \$585.00 a week, so we can multiply that by 52 to figure out her yearly salary.

$$\$585.00 \times 52 = \$30,420$$

Note: If you work less than 52 weeks a year, then be sure to multiply the weekly wage by the number of weeks you work a year.

To determine how much someone makes a **month**, take their annual salary, and divide it by 12.

For example: Leilani makes \$30,420 a year, so divide that by 12 to find her monthly salary.

$$\$30,420 \div 12 = \$2,535 \text{ a month}$$

These totals are for Leilani's **gross salary**. The salary she makes before deductions.

Activity 4: Calculating Salary

Position: *Customer Service Representative Job #1295*

Details: Evenings,
Weekends, Permanent

Salary: \$17.25 an hour, 6
hours a day, 4 days a week

Start date: June 12, 2023

Must have experience
working with a cash register
and helping customers.

Look at the job ad shown here and use it to determine the daily, weekly, monthly, and yearly salary for the position.

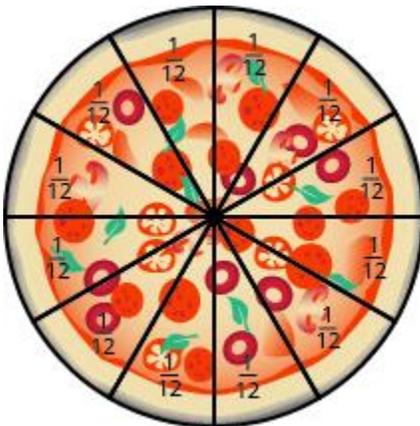
1) Daily salary:

2) Weekly salary:

3) Yearly salary:

4) Monthly salary:

Lesson 3: Introduction to Fractions



Fractions can be difficult to understand. If you find the following review challenging, you can ask your instructor for more help or work on the subject at any time.

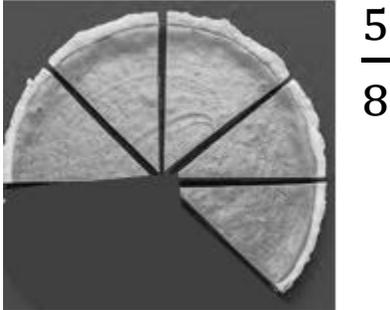
Fractions show a part of something. If you cut a pizza into twelve slices, then each slice is one twelfth of the pizza.

The bottom number (denominator) in a fraction shows the number of parts something is divided into, and the top number (the numerator) shows you how many parts you have.



For example, if you make a pumpkin pie and cut it into eight pieces and your friend eats $\frac{3}{8}$ of the pie, then your friend has

had three out of the eight pieces of the pie; that would leave you $\frac{5}{8}$ of the pie. You would have five out of eight pieces left.



You use fractions in many ways in real life. You can do this when measuring with rulers, measuring cups, and other measuring tools. You also use fractions when talking about sales or time and when you want to give accurate information about the parts of a group.

You can also use decimals to describe some of these as well. Decimals will be discussed in the next lesson of this math module.

Activity 1: Fractions in Daily Life

Answer the following with yes or no:

1. Do you use fractions to represent time, like a $\frac{1}{2}$ hour or a $\frac{1}{4}$ (a quarter) to the hour? _____
2. Do you use measuring cups when you bake? _____
3. Do you use fractions when giving directions; for example, half a kilometre? _____
4. Have you used fractions when measuring with a tape measure?



Multiples and Factors

Fractions - Simplifying

$$\frac{9}{15} = \frac{3}{5}$$

Factors are 1, 3, 9
HCF, So $9 \div 3 =$

Factors are 1, 3, 5, 15
HCF, So $15 \div 3 =$

In the following example, each number increases by 5.

5, 10, 15, 20, 25, 30....

This is your 5 times table or the multiples of 5.

$5 \times 1 = 5$	$5 \times 2 = 10$	$5 \times 3 = 15$
$5 \times 4 = 20$	$5 \times 5 = 25$	$5 \times 6 = 30$

5 is a multiple of both 5 and 1

5 and 1 are the factors of 5

Let us look at the number 30.

5 and 6 are also multiples of 30. But those factors are not the only ones.

3 and 10 are also factors of 30: $10 \times 3 = 30$

They are also factors because they both divide evenly into the number 30.

Math Tricks: Help with Factoring

If you have difficulty remembering your times table or just want to learn an easy way to add and subtract fractions, here is a great trick for finding common denominators. You need to have the same bottom number to add fractions.

$\frac{3}{4}$	<u>Numerator</u>	$\frac{1}{5}$	<u>Numerator</u>
	Denominator		Denominator



Step 1: Type the first denominator into your calculator and add that number to itself. For example, $4+4=$

Continue to press equal. As you do, you will see all the numbers that are multiples of 4. Write down the answers in the first row of the table below.

Step 2: Repeat this process using the denominator of 5 from the second fraction to make the second row in the table on the next page.

4	4, 8, 12, 16, 20, 24, 28, 32,
5	5, 10, 15, 20, 25, 30

Find the number that is the same for each denominator:

4	4, 8, 12, 16, 20 , 24, 28, 32
5	5, 10, 15, 20 , 25, 30

The common denominator is 20.

Step 3: For the first fraction, you must multiply 4 by its other factor to get the number 20.

To find out the other factor count from 4 to the common denominator; you will see that 20 is the 5th number in the factoring.

4	4, 8, 12, 16, 20 , 24, 28, 32
---	--

$$5 \quad \left| \quad 5, 10, 15, \textcircled{20}, 25, 30\right.$$

$$4 \times 5 = 20$$

Step 4: Do the same with the second denominator:

$$5 \times 4 = 20$$

Step 5: Whatever is done to the denominator of a fraction, must also be done to the numerator. For example:

$$\frac{3}{4} \times \frac{5}{5} = \frac{15}{20} \quad \frac{1}{5} \times \frac{4}{4} = \frac{4}{20}$$

You will get this equation:

$$\frac{15}{20} + \frac{4}{20} = \frac{19}{20}$$

*Add the numerators to get your answer. The denominator *always* stays the same when adding or subtracting.

Finding the Lowest Common Denominator (LCM)

You can use this trick to find the lowest common denominator when adding and subtracting fractions.

The denominator must be the same for both fractions if you want to add or subtract them.

This is because you need to have the same sized part and groups to add fractions.

You can do this by using the factors as you were shown in our calculator/ chart math trick above.

For example: It is $\frac{1}{4}$ km from your work to the supermarket and $\frac{1}{3}$ km from the supermarket to your home. How far would you be driving if you went from your work to the supermarket and then home?

$$\frac{1}{4} + \frac{1}{3} =$$

The lowest common denominator here is 12.

$$4 \times 3 = 12 \text{ and } 3 \times 4 = 12$$

$$\frac{3}{12} + \frac{4}{12} = \frac{7}{12} \text{ km}$$

Activity 2: Practice Factoring

Try this math trick with the following equations:

$$\frac{1}{4} - \frac{3}{20} = \underline{\hspace{2cm}}$$

$$\frac{2}{4} + \frac{5}{8} = \underline{\hspace{2cm}}$$

Reviewing Mixed and Improper Fractions

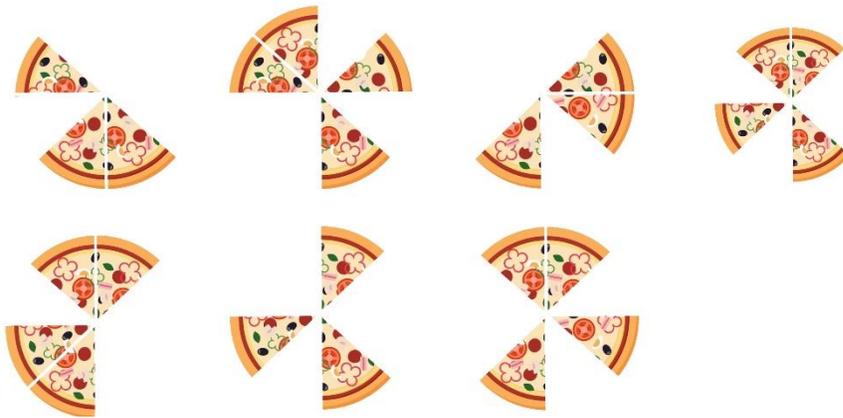
A mixed number is a whole number and a fraction.

An improper fraction is when the top of the fraction (numerator) is higher than the bottom number (denominator).

Ming orders 7 pizzas for her workplace's pizza lunch. Each pizza is cut into 8 pieces. The pizzas are different kinds and people eat different pieces out of each one.



There are 25 pieces of pizza left in total.



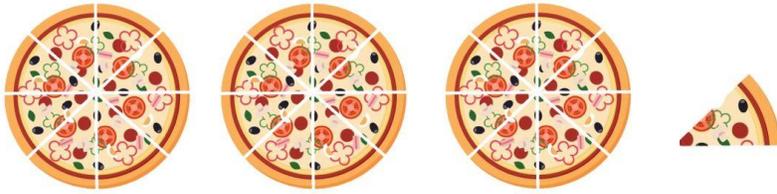
The improper fraction for this is $\frac{25}{8}$. 25 pieces left from pizzas that were cut into 8.

When Ming divides the number 25 by 8. She finds out 8 divides into 25 3 times with 1 piece left over.

She sees that she has 3 whole pizzas left over plus one extra slice.

The mixed fraction for this is $3\frac{1}{8}$.

When the pieces are put together, she has 3 pizzas with one slice out of the 8 left.



Both the mixed and improper fractions are equal, and they show the same amount leftover.



Please watch the following video from Khan Academy if you need to learn more about mixed numbers and improper fractions. If you still need help after the video, please ask your instructor.

Type the link below in your browser's address bar or search *writing mixed numbers as improper fractions* on the Khan Academy site at www.khanacademy.org

<https://www.khanacademy.org/math/cc-fourth-grade-math/imp-fractions-2/imp-mixed-numbers/v/changing-a-mixed-number-to-an-improper-fraction>

Activity 3: Changing Mixed Numbers into Improper Fractions

To change a mixed number to an improper fraction, multiply the denominator by the whole number and add the numerator.

Example: $4\frac{1}{4} = 4 \times 4 + 1 = \frac{17}{4}$

$2\frac{1}{4}$ _____

$9\frac{2}{3}$ _____

$5\frac{4}{6}$ _____

Activity 4: Fraction Word Problems

Sheryl bought two bags of fruit for the lunchroom today. One bag weighs $3\frac{1}{2}$ pounds and the other weighs $1\frac{3}{4}$ pounds.



1. How much do they weigh altogether?

2. How much more does one bag weigh than the other?

Multiplying and Dividing Fractions

When you multiply fractions, you simply multiply the two numerators

and then the two denominators. $\frac{2}{3} \times \frac{2}{3} = \frac{4}{9}$

When you divide fractions, you also multiply. The only difference is that you multiply across diagonally instead of straight across.

$$\frac{2}{3} \times \frac{2}{3} = \frac{6}{6} = 1$$

Activity 5: Multiply and Divide Fractions

$$1) \frac{1}{5} \times \frac{9}{11} = \quad \frac{2}{3} \div \frac{9}{13} = \quad \frac{11}{13} \times \frac{1}{2} = \quad \frac{7}{8} \div \frac{1}{3} =$$

2) After the holidays, all the holiday items in the store become $\frac{1}{3}$ off the regular price. A customer asks how much a \$15.00 holiday t-shirt will be after the discount.

The fraction for 15 dollars would be $\frac{15}{1}$. How much will the item be on

sale? $\frac{15}{1} \times \frac{1}{3} =$

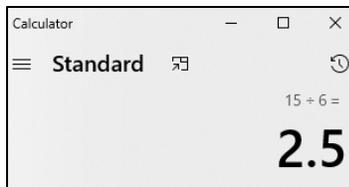
Divide the numerator in the answer by the denominator to get your answer. \$_____

Lesson 4: Calculators and Decimals

When using a calculator, always double-check your number to make sure that you have included your decimals in the right place.

When you divide numbers, the calculator will show the remainder (the amount that did not evenly divide into the number) as a decimal.

$15 \div 6 =$ Divides in 2 times with a remainder of 3 (R3).



Try this on your calculator. The calculator will show this as 2.5. This is because 3 is half (0.5) of 6, so the number 6 divides into the number 15 exactly 2.5 times.

Fractions can be converted to decimals using your calculator.

If you wish to find out what a fraction is as a decimal, take the numerator (the top number) and divide it by the denominator (the bottom number).

$\frac{2}{5}$ is equal to 0.4

$$\frac{2}{5} = 0.4$$

$\frac{1}{4}$ is equal to 0.25

$$\frac{1}{4} = 0.25$$

Activity 1: Find the Decimal Value

1. $\frac{7}{8} =$ _____ 2. $\frac{2}{9} =$ _____

3. $\frac{1}{5} =$ _____ 4. $\frac{3}{11} =$ _____

Lesson 5: Decimals, Fractions, and Percentages

If you want to find the percentage of a decimal number on your calculator, all you need to do is multiply it by 100.

For example: $0.25 \times 100 = 25$ percent (%)

You can also do this with a fraction. Take the numerator of your fraction and divide it by the denominator to get the decimal, then multiply that decimal by 100 to get the percentage. Percentages are always out of 100.

Example

$$\frac{160}{200} = .08 \quad .08 \times 100 = 80\%$$

Employee Attendance

Amari, Medina $\frac{180}{200} =$ _____%

Attenborough, Gus $\frac{234}{260} =$ _____%

Flores, Miguel $\frac{254}{265} =$ _____%

Ito, Kaori $\frac{162}{180} =$ _____%

Moon, Farah $\frac{175}{190} =$ _____%

Peterson, Jennifer $\frac{238}{266} =$ _____%

Richards, John $\frac{238}{266} =$ _____%

Torres, Sami $\frac{120}{150} =$ _____%

Activity 1: Calculating Percentages from Fractions

Jennifer is calculating the yearly attendance for the store's company picnic and award ceremony. She needs to know who has missed the least number of scheduled shifts. Her boss wants her to find the attendance percentage for each employee. Look at Jennifer's list and calculate the percentage of time each employee has attended work for

the year. Note: The denominators will vary as the employees work both full time and part-time shifts at the store. Remember to round the answer, so your percentage does not have decimals.

Who will receive the best attendance prize at the picnic?

Math Tricks: Solving Percentages with Your Mind

There is a short cut when calculating a percentage of something when the numbers are multiples of 10.

For example: Maria is pricing a sale and a customer finds a sweater that is 20% off. The sweater costs \$29.99. The customer asks how much the sweater is with the discount. Maria has learned rounding in math, so she knows that 29.99 rounds up to 30.

She wants to help the customer and quickly figure out how much the sweater will be before tax, but sadly, her cellphone battery has run out and she cannot use her calculator.

She uses this quick math trick.

She thinks 20% of 30. And she remembers that when finding percentages ending in zeros, she can drop the zeros and multiply the numbers left to find out how much the discount is.

$$\cancel{20}\% \text{ of } \cancel{30} = 6$$

After dropping the zeros, she multiplies 2 x 3 and finds the amount of the discount.

Maria now knows to subtract \$6.00 from the sweater price, which means it is \$24.00 (\$30.00 - \$6.00).

Maria can do this because she knows that the zeros in this equation will cancel each other out as she divides them by 10.

Here is the original math equation: $\frac{20}{100} \times \frac{30}{1}$

Maria cancels out the zeros in the equation $\frac{2\cancel{0}}{1\cancel{0}0} \times \frac{3\cancel{0}}{1}$ or as it was written above: $2\cancel{0}\%$ of $3\cancel{0} = 6$

Activity 2: Using a Percentage Trick

Try this short cut by cancelling out the zeros in these math problems to get a quick answer.

1. 30% of 10 _____
2. 40% of 80 _____
3. 60% of 30 _____

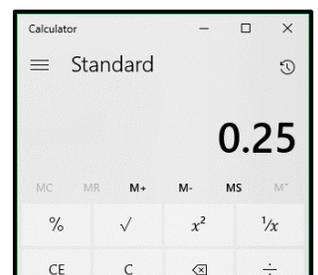
Using a Calculator for Percentages

Knowing how to use a calculator when working with percentages is a useful skill. Read the following examples to learn how to answer these math problems on a calculator.

EXAMPLE 1: Finn’s customers want to tip 15% on their meal. Their dinner comes to \$25.00. They ask Finn what is 15% of \$25.00.

Finn must enter the formula for finding the amount from a percentage into his calculator:

25 x 15% = to get his answer
The tip amount will be \$3.75.



EXAMPLE 2: Juan knows that the textbooks his customer is buying for college are 30% off today at the school bookstore where he works. The books will total \$240. His customer asks how much these books will cost after the discount. To find the total after the discount, Juan must enter this formula for subtracting a percentage into his calculator:

240 – 30% = to get his answer

The amount of the books will be \$168.00.

EXAMPLE 3: Ming’s customer is buying new boots and wants to figure out how much they will be with HST added (13%). The boots are \$75.95. She must enter this equation into her calculator for adding a percentage to a number:

75.95 + 13% = to get her answer

The cost of the boots will be \$85.82.

Activity 3: Percentages with a Calculator



Please use the information on calculator use above to answer these multi-step word problems.

Leilani is an assistant manager and has \$975.00 to spend on a new dishwasher for the break room. She finds an industrial dishwasher for \$1300.00. It is currently on sale for 35% off.

1. How much is 35% of \$1300.00? _____
2. How much is the dishwasher after the 35% is deducted?

3. How much will the dishwasher be once the HST (13%) is added?

4. Does Leilani have enough to buy this dishwasher for her the break room’s kitchen? **Yes**, or **No**?
5. Show the math equations (calculator formulas) that prove your answer in the box provided.

Activity 4: Complete the Charts

Complete the charts for these questions.

1. Abdul needs to add 5% for commissions to all the employees' December incomes and needs to include how much each employee made in commissions for that month. Fill in the table on the next page and remember to properly round to your hundredths place when dealing with money.

2. At Beauty Life's Salon Supply Store, they mark each product up 25% from the wholesale price. Look at their inventory list on the next page and fill in the new store price that the item will be sold for after the markup.

Name	December Earnings	Amount of 5% Commission	Earning with 5% Commission
Benito, Carla	\$1,330.75	\$66.54	\$1397.39
Craven, Harper	\$941.78		
Chen, Delyn	\$1004.65		
Jones, Mitchell	\$754.20		
McDougall, Brian	\$1123.46		
Thompson, Joe	\$899.43		

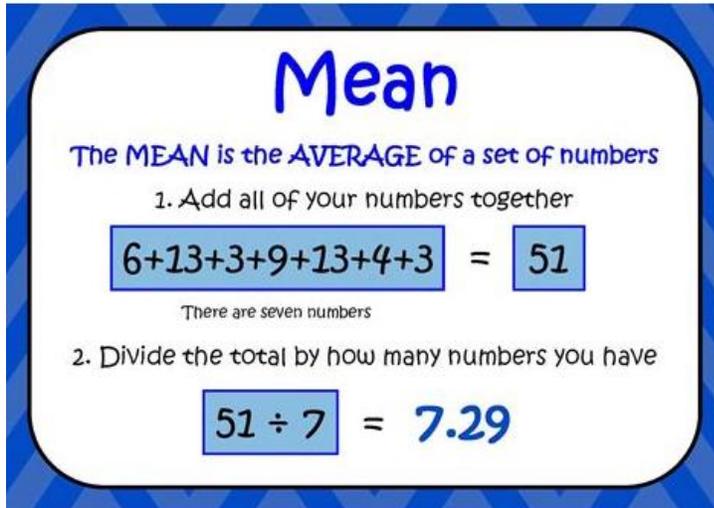
Inventory	Wholesale	25% of Wholesale	Store Price
Beauty Life Hairspray	\$10.00		
Beauty Life Leave in Conditioner	\$19.00		
Beauty Life for Curly Hair	\$15.50		
Beauty Life Hair Oil	\$12.50		
Beauty Life Golden Lux Mousse	\$9.50		



Congratulations you have completed Part 2 of this Retail Math Course

Skills for Success: Retail Math - Part 3 (OALCF level 3)

Lesson 1: Understanding Averages



Mean

The **MEAN** is the **AVERAGE** of a set of numbers

1. Add all of your numbers together

$$6+13+3+9+13+4+3 = 51$$

There are seven numbers

2. Divide the total by how many numbers you have

$$51 \div 7 = 7.29$$

An average (also called the mean) is the total value of something divided by the number of the values in a group. In retail, this may be used to determine average monthly sales or the average sale per customer in a day. Averages are used to give an estimate or an idea of what common values are in a set of numbers.

How to Calculate Average Sales

Calculating your average sales depends on two factors; the period or frequency that you want to understand, and the total sales value for that period. Average sales can be measured by a small length of time, like days or weeks, or by a larger period, such as months or a year.

To calculate the average sales over a chosen period, you find the total value of all sales in that chosen timeframe and divide it by the period of time.

For example, you can find average sales per month taking the total sales over a year and dividing that total by 12 (the number of months in the year). If the total sales for the year were \$850,000 for the year, the monthly sales would be calculated by using this formula:

Average monthly sales

$$AMS = \left(\frac{\text{yearly sales}}{12} \right)$$

$$AMS = \left(\frac{850,000}{12} \right)$$

By this estimate, average sales per month, would be approximately \$70,833.33 per month.

Activity 1: Looking for Averages

Try the next two questions. Using a calculator, determine the average.

1. Jenna is supervising the customer service area. At the end of the day, the store owner has asked her to look at the total sales for the day and find the average sale per customer (who has made a purchase at the store). The store has sold \$2,115.47 worth of product at the end of the day and has rung 40 customers through the cash.

What is the average sale per customer for the day? Please round your answer to the hundredths' place.

2. Ming is acting manager at the Value Mart this week. Her manager has been trying to decide if they need to move into a larger space. Each week, she averages sales per square foot of the store. The market is 2,100 square feet. The market has sold \$136,550 worth of product at retail price this week. Ming needs to calculate this information for her manager.

What can Ming say was the average sale per square foot at the market this week?

Lesson 2: Working with Ratios

A ratio compares values. A ratio says how much of one thing there is compared to another thing. If you are cooking in a kitchen, you will need to understand ratios to make food. If you are cleaning a restaurant or another type of business, you will need to understand ratios to mix cleaning solutions. If you have a job in a customer service field ratios may be used to measure sales or inventory.

Ratio Basics

Example 1: A recipe for pancakes asks for 3 cups of flour to 2 cups of milk, a 3:2 ratio. This makes enough pancakes for 3 people.

You must cook for a reservation of 12 and need to increase the recipe 4 times to make enough pancakes for everyone.

This means multiplying the ratio by 4, $(3 \times 4):(2 \times 4)$, making it 12:8.

Example 2: The store must be cleaned at the end of the night. Every worker is responsible for cleaning their department.

The cleaning solution for the floor has a ratio of 1:10. This means add 1 cup of product to 10 cups of water. The store staff uses a measuring cup and measures using these directions for the cleaning solution. The cleaning staff uses 30 cups of water. They know that they need to mix in 3 cups of cleaning product $(1 \times 3):(10 \times 3)$ The ratio becomes 3:30.

Activity 1: Determining Ratios

1) Ming is applying for a job in an office. She can type 50 words per minute and writes the ratio on her resume as 50:1 wpm.

How many words could Ming type in 5 minutes? _____

2) Harriet works as an assistant at Sunny Shine Child Care Centre. The ratio of staff to children there is 2 adults to every 7 students (2:7). Friday is a PD day and Harriet must call in enough staff to cover the 49 children who will be there all day. How many staff members will she need to call? _____. Write the ratio of total staff to students for the PD day. _____:

3) Carlos is baking for a fundraiser and needs to make 180 cookies. He has three hours to make them.

What is the ratio of cookies to hours that Carlos is trying to meet?

How many cookies must he make per hour to meet his goal?

4) A trade's helper is gathering bags of concrete. The carpenter he is helping is making posts. The ratio of bags of concrete to posts is 2.5:1

The carpenter is making 9 posts. How many bags will the helper need to bring to the carpenter? _____

Activity 2: Retail Sales Ratios

Carla works at a popular bath and body product shop. Part of the job is to greet customers, give them shopping bags, help them if needed and direct them to sales. The cashier asks the customer at check-out if anyone helped them on the floor. These numbers are tracked to determine customer service ratios and employee performance.

On Sunday, 200 customers went through the store check-out. Carla assisted 50 of those customers.

What is Carla's ratio of customer sales to number of customers?

Lesson 3: Using Retail Formulas

What is a Formula in Math?



A formula is a rule written with mathematical operations. It usually connects two or more values with an equal sign. When you put in the information, you can find the answer. This way you can solve questions quickly. The following retail formulas are used to simplify the process of reaching an answer and using them saves time.

Before You Start: Understanding Some New Vocabulary

Net sales are the total amount of revenue a business gains from sales after discounts, customer returns, and other deductions.

Gross sales are the total amount of sales without any deductions. To calculate gross sales, simply multiply the number of units sold by the unit price. Gross sales are based on retail prices of items sold.

Cost of Sale is how much the business has spent on the product (wholesale price).

Markup is the percentage by which the business increases the sale of their products to make a profit (extra charged on top of cost of sale price).

Retail price is the cost of sale item plus the company markup.

Important Formulas for Tracking Data in Retail

Look at the following important retail formulas and examples below and use them to answer the retail word problems at the end of this lesson.

Note: You do not need to remember these formulas by heart. It is simply good practice using new formulas in the workplace. Practicing these formulas will help you understand some of the math involved in retail management.

1. Total Net Sales = Total gross sales — deductions and discounts

Example: Jin's online business made a gross sale of \$10,400.00 in January. Jin charges \$10.00 shipping on each order and in January, he sold to 48 customers. He gave zero discounts to customers in January.

He first calculates his earnings after 13% Ontario taxes.

$$\$10,400.00 - 13\% = \$9048.00$$

He then removes the shipping price from his total sales (48 customers x \$10.00) $\$9048 - \$480 = \$8,568.00$

Jin's net sales are \$8568.00

2. Profit Margin = Net sales – Cost of Goods

Example: Jin's net sales were \$8568.00 in January. This is based on his retail prices.

Cost of Goods = Retail Price – Markup.

Jin marks up all stock by 40% on the cost of goods.

Cost of Goods = \$8568.00 – 40%

Cost of goods = \$5140.80

Profit Margin = \$8568.00 (net sales) - \$5140.80(cost of goods)=
\$3427.20

Jin's total profit in January = \$3427.20.

3. Retail Price (RP)= Cost of goods + Markup

Example: The inventory at the Starlight gift store costs \$32,000.

The markup at the store is 35%.

The retail price for the inventory is \$32,000 + 35%

Retail price = \$43,200

4. Markup = Retail Price - Cost of Goods

A customer buys a shirt from Bargain Fashions for \$25. The cost of the shirt to the store was \$15.

The markup on the item was \$25-\$15

The markup of the item is \$10.

5. Markup percentage = Markup ÷ cost of goods x 100

We multiply by 100 because markups are done as a percentage.

A shirt from Bargain Fashions sells for \$25 retail. It cost the store \$15.00, and the item markup was \$10.00.

Markup percentage = $\$10.00 \div \$15.00 \times 100 = 66.6\%$ markup.

The markup percentage for the shirt was 66.6%.

Activity 1: Practice Retail Formulas

1. Fabulous Shoes sold \$1,200 worth of merchandise in one day at their store. They are a store in Ontario.

They did not have any sales or discounts on merchandise but did do a \$114.20 dollar return during the day.

Using the **total net sales formula**.

What were their net sales for this day?

2. Joe buys a pair of shoes for \$45.00. The company bought these shoes wholesale for \$25.00. Using the markup formula, what was the mark up in dollars for this item? _____

What is the markup percentage for Joe's shoes? _____%

3. Sally marks all the candles in her gift shop up 30%. The cost of goods for one candle is \$10.00, Using the retail price formula, how much will a candle cost a customer at Sally's store? _____

How much will the candle cost the customer after sales taxes are applied? _____

4. Fun for Days Toys sold \$78,000 worth of merchandise in December. If the markup on their toys is 28%, what were their profits in December?

Part 3 Review: Applying What You Have Learned



1. The Value Mart has a two-day sale on boxes of oranges. On Saturday, the market sells 75 boxes of oranges. On Sunday, the store sells 15 boxes of oranges. What is the ratio of oranges sold Saturday to oranges sold on Sunday?

____: ____

2. Cooper's boss at the Fun for Days Toy Store asks him to look over the sales for the month of June. He wants him to calculate the net sales for the month and then give him an average per day for their net sales in June.

Cooper must first determine the net sales for the store.

In June, the store made \$11,679.98 in gross sales including taxes.

Over the month of June, they accepted \$420.00 in customer returns.

The store offered \$980.40 in coupons and discounts throughout the month.

Remembering that June has 30 days, what were the approximate average net sales per day for the toy store in June?

Use the lines below to show your work.



Congratulations you have completed Part 3 of this course.

Skills for Success: Retail Math, Part 1 – Answer Guide

Lesson 1: Using a Calculator

Activity 2: Showing Money in Decimal Form

1. Two dollars and fifty cents 2.50
2. Sixty cents 0.60
3. Twelve dollars and fifteen cents 12.15
4. Ten cents 0.10
5. One dollar and seventy-five cents 1.75
6. Forty cents 0.40
7. Four dollars and twenty-five cents 4.25
8. Thirty cents 0.30

Activity 3: Practicing Addition and Subtraction on a Calculator

1. $0.25 - 0.10 = \underline{0.15}$
2. $0.25 + 0.05 = \underline{0.30}$
3. $2.00 + 0.25 + 0.10 = \underline{2.35}$
4. $2.00 - 0.50 = \underline{1.50}$
5. $10.00 + 1.00 + 0.05 = \underline{11.05}$
6. $5.00 - 1.75 - 0.10 = \underline{3.15}$
7. $3.95 + 2.45 = \underline{6.40}$
8. $0.35 - 0.20 = \underline{0.15}$

9. $1.40 - 0.25 = \underline{1.15}$

Activity 4: Practicing Multiplication and Division

1. $0.25 \times 4 = \underline{1}$

2. $1 \div 0.25 = \underline{4}$

3. $1 \div 4 = \underline{0.25}$

4. $0.10 \times 20 = \underline{2}$

5. $2.00 \div 20 = \underline{0.10}$

6. $0.05 \times 100 = \underline{5}$

7. $5.00 \div 0.05 = \underline{100}$

8. $1.00 \div 0.10 = \underline{10}$

Lesson 2: Working with Change

Activity 1: Practicing Counting By 2, 5, 10 and 25

2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26
5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75
10, 20, 30, 40, 50, 60, 70

25, 50, 75, 100, 125, 150

Quarters – 25, 50, 75, 100 (1.00)

Dimes – 10, 20, 30, 40, 50, 60, 70, 80, 90, 100 (1.00)

Nickels – 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70

How many more nickels would you need to make \$1.00? 30

Activity 2: Counting Coins

90 cents

\$4.00

\$3.60

\$2.55

Activity 3: Counting Money Practice

\$5.55

\$2.20

\$23.90

Activity 4: Making Change

1 twenty-dollar bill, 1 loonie, 3 quarters and 1 nickel

1 twoonie, 2 quarters, 1 dime, and 1 nickel

1 five-dollar bill, 1 twoonie, 1 loonie, and 2 dimes

Activity 5: Using a Calculator and Making Change

1. $\$10.00 - \$5.50 = \$4.50$

2 twoonies and 2 quarters

2. $\$20.00 - \$4.25 = \underline{\$15.75}$

Ten-dollar bill, Five-dollar bill, three quarters

3. $\$1.00 - \$0.40 = \underline{\$0.60}$

Two quarters, one dime

4. $\$4.00 - \$3.80 = \underline{\$0.20}$

Two dimes

5. $\$10.00 - \$6.95 = \underline{\$3.05}$

One twoonie, one loonie and one nickel

Lesson 3: Counting a Cash Drawer

Activity 1: Totaling a Cash Drawer

Cash drawer count sheet

Date: 02/24/23

Name: Jessica Lopez

Bills	Total
\$100 x 1	100
\$50 x 1	50
\$20 x 6	120
\$10 x 13	130
\$5 x 20	100
Total bills	500
Coin rolls	Total
Twoonies (50) x 1	50
Loonies (25) x 0	0
Quarters (10) x 1	10
Dimes (5) x 2	10
Nickels (2) x 0	0
Total rolls	70
Loose Change	Total
\$2 x 1	2
\$1 x 10	10
\$0.25 x 4	1
\$0.10 x 6	0.60
\$0.05 x 10	0.50
Total change	14.10
Cash Total (bills + rolls + change)	584.10
Starting Float	- 100
Final Total	= 484.10

Activity 2: Close of Day Report

1. Yes
2. \$1,046.85
3. \$1848.35
4. 02/24/23

Lesson 4: Measuring Time

Activity 1: How Much Time has Passed

1. No, he did not. 10 minutes
2. 7 hours 30 minutes (or 7.5 hours)
3. 5 hours
4. 2.5 hours (or 2 hours, 30 minutes)
5. YES 2pm
6. 2 hours

Review: Test Your Knowledge

Employee Name Monday, October 23rd

1. Carla 4.5 hours
2. Sam 6 hours
3. Winter 5.25 hours
4. Jin 4 hours

Skills for Success: Retail Math, Part 2 – Answer Guide

Activity 1: Rounding Numbers

1. 60 440 110 40 320
2. 1,000 20,000 166,000 82,000

Activity 2: Rounding Practice

\$8.33

Activity 3: Rounding Decimals

Learner finds worksheet by and completes exercise. Instructor may need to print if learner cannot access a printer.

Activity 4: Using Rounding at the Store

Eggs \$3.00

Milk \$4.00

Bread \$3.00

Banana \$1.00

Hamburger \$7.00

Total from rounding to the nearest dollar: \$18.00

YES

Lesson 2: Adding Hours in a Schedule

Activity 1: Practice Dividing Minutes by 60

1. 15 minutes 0.25

2. 17 minutes 0.28

3. 35 minutes 0.58

4. 45 minutes 0.75

5. 50 minutes 0.83

Activity 2: Adding Time in a Schedule

1. Number of days worked 4 x 0.5 = 2

2. Number of hours worked from 03/08/21-03/21/21 subtracting unpaid lunch time. 7.5 + 6 + 7.5 + 6 = 27 - 2 hours for lunch = 25

3. How many hours will Joe Example be paid for on his pay cheque? 25

Activity 3: Reading a Pay stub

1) \$431.47 (entered on pay stub)

2) Pay Begin Date: 03/08/21 -Pay End Date: 03/21/21

3) 25

4) \$19.50

5) \$1,872

Activity 4: Calculating Salary

- 1) \$103.50
- 2) \$414.00
- 3) \$21,528
- 4) \$1,794

Activity 1: Fractions in Daily Life

Answers will vary.

Activity 2: Practice Factoring

$$\frac{2}{20} \text{ or } \frac{1}{10}$$

$$\frac{9}{8} \text{ or } 1\frac{1}{8}$$

Activity 3: Changing Mixed Numbers into Improper Fractions

$$\frac{9}{4} \quad \frac{34}{6} \quad \frac{29}{3}$$

Activity 4: Fraction Word Problems

$$1. 5\frac{1}{4} \quad 2. 1\frac{3}{4}$$

Activity 5: Multiply and Divide Fractions

$$1) \frac{9}{55} \quad \frac{26}{27} \quad \frac{11}{26} \quad \frac{21}{8}$$

$$2) 5 \text{ dollars off } \frac{15}{3}$$

Lesson 4: Calculators and Decimals

1) 0.875 2) 0.22 3) 0.2 4) 0.27

Lesson 5: Decimals, Fractions, and Percentages

Activity 1: Calculating Percentages from Fractions

Miguel Flores will receive the prize.

Employee Attendance	
Amari, Medina	$\frac{180}{200} = 90\%$
Attenborough, Gus	$\frac{234}{260} = 90\%$
Flores, Miguel	$\frac{254}{265} = 96\%$
Ito, Kaori	$\frac{162}{180} = 90\%$
Moon, Farah	$\frac{175}{190} = 92\%$
Peterson, Jennifer	$\frac{238}{266} = 89\%$
Richards, John	$\frac{238}{266} = 89\%$
Torres, Sami	$\frac{120}{150} = 80\%$

Activity 2: Using a Percentage Trick

1. 3

2. 32

3. 18

Activity 3: Percentages with a Calculator

1. 35% of \$1300.00 = \$455.00
2. Price after deducting 35% is \$845.00.
3. Dishwasher with HST is \$954.85.
4. Yes

5. $\$975.00 - \$954.85 =$
 $\$20.15$
 \$20.15 left over

1.

Name	December Earnings	Earning with 5% Commission	Amount of 5% Commission
<i>Benito, Carla</i>	\$1,330.75	\$1397.39	\$66.54
<i>Craven, Harper</i>	\$941.78	\$988.87	\$47.09
<i>Chen, Delyn</i>	\$1004.65	\$1054.88	\$50.23
<i>Jones, Mitchell</i>	\$754.20	\$791.91	\$37.71
<i>McDougall, Brian</i>	\$1123.46	\$1179.63	\$56.17
<i>Thompson, Joe</i>	\$899.43	\$944.40	\$44.97

2.

Inventory	Wholesale	20% of Wholesale	Store Price
Beauty Life Hairspray	\$10.00	\$2.00	\$12.00
Beauty Life Leave in Conditioner	\$19.00	\$3.80	\$22.80
Beauty Life for Curly Hair	\$15.50	\$3.10	\$18.60
Beauty Life Hair Oil	\$12.50	\$2.50	\$15.00
Beauty Life Golden Lux Mousse	\$9.50	\$1.90	\$11.40

Skills for Success: Retail Math, Part 3 – Answer Guide

Lesson 1: Understanding Averages

Activity 1: Looking for Averages

1. $2,115.47 \div 40 = \$52.89$

2. $\$136,500 \div 2,100 \text{ sq ft} = \$65 \text{ per square foot}$

Lesson 2: Working with Ratios

Activity 1: Determining Ratios

1. 250:5

2. 14

14:49

3. 180:3

60

4. 22.5:9

Activity 2: Retail Sales Ratios

$200:50$

$4:1$

Lesson 3: Using Retail Formulas

Activity 1: Practice Retail Formulas

1. $1,200 - 13\% \text{ (sales tax)} = \$1,044$

$\$1,044 - 114.20 \text{ (return)} = \929.80

Net sales \$929.80

2. 20

$$20 \div 25 \times 100 = 80\%$$

3. $\$10 + 30\% = \13.00

$$\$13.00 + 13\% = \$14.69$$

4. $\$78,000 - 28\% = \text{cost of goods}$

$$\text{Cost of goods} = \$56,160$$

$$\$78,000 - \$56,160 = \$21,840$$

Part 3 Review: Applying What You Have Learned

1. 75:15

5:1

2. $\$11,679.98 - 13\% = \$10,161.58$

$$\$10,161.58 - \$420.00 - \$980.40 = \$8,761.18$$

$$\$8,761.18 / 30 = \$292.04 \text{ approximately per day}$$

Template for Cash Drawer Counting Practice

Bills	Total
\$100 x	
\$50 x	
\$20 x	
\$10 x	
\$5 x	
Total bills	
Coin rolls	Total
Twoonies (50) x	
Loonies (25) x	
Quarters (10)	
Dimes (5) x	
Nickels (2) x	
Total rolls	
Loose Change	Total
\$2 x	
\$1 x	
\$0.25 x	
\$0.10 x	
\$0.05 x	
Total change	
Cash Total (bills + rolls + change)	
Starting Float	-
Final Total	=