



## Purchasing Power

Suggested time: 45 minutes

### What's important in this lesson:

In this lesson, you will learn how to solve problems involving sales tax, discounts, restaurant tips, and commission earnings.

### Complete the following steps:

1. Read through the lesson portion of the package on your own.
2. Complete the exercises.
3. Check your answers with the Answer Key that your teacher has.
4. Seek assistance as needed.
5. Complete the Evaluation and hand it in. Be sure to ask for assistance if you need it.

### Hand in the following:

1. Student Handout
2. Assessment and Evaluation

### Questions for the teacher:



## Purchasing Power

### Percent Practice

1. **Percent** means “out of 100”.

A total or whole of something is \_\_\_\_\_%; Half of something is \_\_\_\_\_%.

Each part of a total divided into ten parts is \_\_\_\_\_ % ; a dime is \_\_\_\_\_ % of a dollar.

Each part of a total divided into four parts is \_\_\_\_\_ % ; a quarter is \_\_\_\_\_ % of a dollar.

2. To find a decimal from a percent, divide the fraction.

Example:  $66\% = 66 \text{ out of } 100 = 66 \div 100 = 0.66$

Find the decimal equivalent:

a.  $40\% =$   
=

b.  $2\% =$   
=

c.  $33.3\% =$   
=

3. To find the percent from a fraction, divide the fraction and multiply by 100.

Example:  $1/4 \text{ off} = ?\%$

$$1 \div 4 \times 100 = 25\%$$

Find the percent equivalent:

a.  $2/3 \text{ off} = ?\%$

$$\text{_____} \div \text{_____} \times 100 = \text{_____}\%$$

b.  $3/4 \text{ off} = ?\%$

$$\text{_____} \div \text{_____} \times 100 = \text{_____}\%$$

4. To find the percent of a total, change percent to decimal and multiply.

Ex: You tip 15% of a restaurant bill for \$22.

$$\begin{aligned} \text{Tip} &= 15\% \times 22 \\ &= .15 \times 22 \\ &= \$3.30 \end{aligned}$$

Ex: A salesperson’s commission is 18% of a car’s price.

$$\begin{aligned} \text{Commission} &= 18\% \times 24000 \\ &= .18 \times 24000 \\ &= \$4320. \end{aligned}$$

Find the 15% tip for the following restaurant meals:

a. A light lunch of \$9.50

b. A celebration dinner of \$86.00

Find the salesperson’s commission earned:

a. 28% on equipment priced at \$1600

b. 6% on \$220,000 real estate sold



Part A: Sales Tax

Now that you have worked for some money, you might want to spend some! But the purchase price of an item is *not exactly* what you end up paying. Here are two reasons:

- *Sales tax* is added to the cost of most items (not food).
- A *discount* can be subtracted from the purchase price if you find an item on sale.

**Sales Tax** is money paid to the government, calculated as a percent.

For example in Ontario, 8% PST (provincial sales tax) and 6% GST (goods and services tax) are added to our purchase price.

$$\begin{aligned} \text{Total Paid} &= 100\% \text{ purchase price} + 14\% \text{ of purchase price for sales tax} \\ &= \text{purchase price} \times (100\% + 14\%) \\ &= \text{purchase price} \times (1 + .14) \\ &= \text{purchase price} \times 1.14 \end{aligned}$$

Percents are changed to **decimals** and added

1. Example: Find the sales tax and the total paid for a purchase of \$60.00

$$\begin{aligned} \text{Sales Tax} &= \$60 \times 14\% \\ &= 60 \times .14 \\ &= \$8.40 \\ \text{Total Paid} &= \$60 \times 1.14 \\ &= \$68.40 \end{aligned}$$

2. Calculate the sales tax and the total paid. Then fill in the sales receipt.

Show your work.

The Jean Store 45 Main Street East Anytown, Ontario		Thanks for your business! Keep receipt for returns
Purchase Price		
1 – LeFitscha Jean	34.99	
Sales Tax	_____	
TOTAL Paid	=====	
15/07/06 Paid by MasterCard 4502 3434 6543 xxxx		

Sales Tax =

Total Paid =

Remember, money has two decimal places

Explain another way to find Total Paid.



Part B: Discounts

**Discounts** are amounts of money off the price of an item.

For example, a sale is advertising 25% off, so the discount is 25%, or a coupon says 1/3 off every Tuesday, so the discount is 33%.

You still must pay the Sales Tax on a discounted item.

1. Example: Calculate the Total Paid for a \$120 item on sale for 1/4 off, including tax.

$$\begin{aligned}
 \text{Discount} &= \text{Purchase Price} \times \% \text{off} \\
 &= 120 \times (1/4 \text{ off}) && \text{Fraction is changed to a percent} \\
 &= 120 \times (1 \div 4 \times 100) \\
 &= 120 \times .25 && \text{Percent is changed to a decimal.} \\
 &= \$30
 \end{aligned}$$

$$\begin{aligned}
 \text{Sale Price} &= \text{Purchase Price} - \text{Discount} \\
 &= 120 - 30 \\
 &= \$90.
 \end{aligned}$$

$$\begin{aligned}
 \text{Total Paid} &= \text{sale price} \times \text{taxes} \\
 &= 90 \times 1.14 \\
 &= \$102.60
 \end{aligned}$$

2. You found the perfect birthday gift for your friend, and it's on sale! Calculate the discount, the sale price, and the Total you will pay. Fill in the sales receipt.

Show your work!

The Birthday Shoppe  
17 Candle Place  
Yourtown, Ontario

Purchase Price	
1 – Personalized Gift	\$42.00
Less: 1/3 off Today!	
= Discount of	_____
Sale Price	_____
Sales Tax	_____
TOTAL Paid	=====

22/09/06  
Debit card payment

Next Sale  
Oct 16<sup>th</sup>!

Discount = \_\_\_\_\_

Sale Price = \_\_\_\_\_

Sales Tax = \_\_\_\_\_

Total Paid = \_\_\_\_\_



Part C: Sales Tax and Discounts

You are looking for the BEST BUY in Camping Equipment!  
 Three models of tents are advertised in a flyer.

1. Predict which tent will be the least expensive. Why do you think so?

2. Compare the prices of the tents by completing this table.

Tent Choices	Discount = Purchase Price x %off	Sale Price = Purchase Price – Discount	Total Paid = sale price x taxes
A: Regular price is \$129.00 Now 20% off			
B. Regular price is \$189.00 Now ¼ off			
C. Regular price is \$159.00 Now 30% off			

3. Was your prediction in #1 correct?    Yes                      No

4. What is the total price of the most expensive tent?

5. You have \$125 to spend. Which one(s) can you afford?



Part D: Restaurant Tips

**Restaurant Tips** are money paid to a server who provides good service.

Many people pay 15% of a restaurant bill as a tip.

$$\begin{aligned} \text{Tip} &= 15\% \text{ of bill} \\ &= .15 \times \text{bill} \\ &= \$ \end{aligned}$$

$$\begin{aligned} \text{Total Paid} &= 100\% \text{ bill} + 15\% \text{ of bill for tip} \\ &= \text{bill} \times (100\% + 15\%) \\ &= \text{bill} \times (1 + .15) \\ &= \text{bill} \times 1.15 \\ &= \$ \end{aligned}$$

Percents are changed to **decimals** and added

1. Example: Find the tip and the total paid for a restaurant bill of \$40.00


$$\begin{aligned} \text{Tip} &= \$40 \times 15\% \\ &= 40 \times .15 \\ &= \$6.00 \end{aligned}$$

$$\begin{aligned} \text{Total Paid} &= \$40 \times 1.15 \\ &= \$46.00 \end{aligned}$$

2. Calculate the Tip and the Total you need to pay, for each Restaurant bill.

**Show your work**

**TheLunchBucket**



Deluxe Sandwich 6.50


Smoothie 3.50

Bill \_\_\_\_\_

Tip \_\_\_\_\_

TOTAL You Pay =====

Fine Dining at the Blue



Appetizer \$11.00

Dinner de Crepes \$19.00

Dinner de Seafood \$23.00

Beverages \$17.00

Bill \_\_\_\_\_

Tip \_\_\_\_\_

TOTAL You Pay =====

Add parts of meal

Tip =

Total =

Tip =

Total =



Part E: Commission Earnings

**Commission Earnings** pay a percent of sales made. For example, a real estate agent sells a property for \$200,000 and gets a 5% commission. A salesperson in an electronics store gets paid 12% of the sales she makes in a week.

$$\begin{aligned}
 \text{Commission Earnings} &= \text{Dollar Amount Sold} \times \text{Percent} \\
 &= \$200,000 \times 5\% \\
 &= 200,000 \times .05 \\
 &= \$10,000.
 \end{aligned}$$

1. An electronics store’s employees make the following sales each day. Each employee earns 4% commission. Complete the chart to find weekly Commission Earnings for each.

Week of May 15 Red Tag Day May 17	Dollar Amount Sold To Customers by		
	Salesperson A	Salesperson B	Salesperson C
Mon 15	\$ 3 800	\$ 2 030	\$ 2 900
Tues 16	\$ 5 050	\$ 7 800	\$ 4 900
Wed 17	\$ 10 300	\$ 12 400	\$ 29 000
Thurs18	\$ 7 950	\$ 6 070	off
Fri 19	\$ 9 900	\$ 11 700	\$ 13 200
TOTAL WEEKLY SALES			
TOTAL WEEKLY COMMISSION EARNINGS			

2. A car salesperson at XIA sold five of their best small economy cars this week. Each car sold for \$12 222, including all options, taxes, freight and delivery. The salesperson earns a commission of 17%. Calculate her commission earnings for the week.

3. A real estate agent has been trying to sell a house for two months. After a very busy Open House, the house sold for \$175,000. The real estate agent earns 6% commission. Calculate her earnings for this sale.



## Purchasing Power Evaluation

Show your work!

1. On a recent trip to visit your relatives in northern Ontario, you went with your cousin to his favourite store. You purchased a shirt for \$18.00 plus tax. Find the sales tax paid, and the Total Price you paid.

a) Sales Tax =

b) Total Paid =

2. Your cousin took you to a late night movie. Tickets are regularly \$10.50, but after midnight the tickets are  $\frac{1}{3}$  off. Calculate the discount (the amount of money off).

Discount =

3. You took your uncle out to lunch one day, and the bill came to \$16.30. You tipped the server the usual 15%. Calculate the tip, and the Total paid.

a) Tip =

b) Total Paid =

4. Your aunt is a Plexus car dealership salesperson. She sold two luxury sedans this week. Each car was loaded with options, and sold for \$36 555, all taxes included. Your aunt earns a commission of 8%. Calculate her commission earnings for the week.