BUILD YOUR NEW SKILLS

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1. A computer repair technician fixes 8 printers for every 2 computers she repairs. What is the simplest form of this ratio? What are two ways you can write this ratio?

2. Sheena is a secretary at a high school in Newfoundland. She types 55 words per minute. How long will it take her to type a 2000-word report?

3. An apprentice mechanic rotates the 4 tires on a pick-up truck in 15 minutes. How long would it take him to rotate the tires on 5 trucks? How long does rotating 2 tires take?

4. Jane is selling tickets to see the band Vishten. She sells 4 tickets on Thursday, 6 on Friday, and an equal number each on Saturday and Sunday, for a total of 36 tickets sold over four days. How many tickets were sold each day on Saturday and Sunday? What proportion of the total sales took place on Saturday?

5. The ratio between Siu's height and the height of her brother Tai is 5:6. If Tai is 145 cm tall, how tall is Siu, to the nearest centimetre?

6. If the Sound Source music store makes a profit of $2550.00 on the sale of 200 DVDs, how much profit would the store make on the sale of 50? On the sale of 900?

The Acadian band Vishten is from Prince Edward Island. Their music has a Celtic sound and French lyrics.

7. Oliver's Restaurant purchases a 5-kg jar of olives for $15.00 through a wholesaler. How many kilograms would it get for $75.00? How much would it cost the restaurant to buy 20 kilograms?

8. Keri is a member of New Brunswick's Madawaska Maliseet First Nation. She works as a carpenter and is mixing a shade of stain for a set of cabinets she has built. The ratio for the shade she wants is 3 parts of Spanish oak to 4 parts of red mahogany. If she needs 12 litres in all, how many litres of each stain does she need?

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BUILD YOUR SKILLS

1. Vikram purchases 12 sinks for his plumbing business at a wholesale price of $1053.00. He wants to sell each sink to a different customer. What is the unit price of one sink?

2. A horticulture technician buys lawn fertilizer for several customers. She finds the following prices: 7 kg for $19.99; 14 kg for $35.95; 21 kg for $50.99. Which package has the lowest unit cost?

3. A locksmith in Campbellton, New Brunswick, is buying locks for a new apartment building. One supplier sells locks at $120.00 for four. Another supplier sells six for $192.00. Which supplier has the lower cost for one lock? What other factors might you consider when selecting a lock?

This horticulture technician mows the lawn prior to fertilizing it.

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4. Joel is a salesperson in a department store that sells T-shirts individually and in packages of two or three. One T-shirt sells for $9.98, a package of two sells for $15.49, and a package of three sells for $22.99.

    a) Find the unit price when T-shirts are sold in a package of two. How much is the unit price in a package of three?

    b) Suppose a customer wants to buy seven T-shirts. Which combination of packages will be the least expensive?

5. The meat department at a large supermarket sells boneless steaks at the following prices:

    - $7.50 for 500 g;
    - $12.50 for 1 kg; and
    - $19.50 for 1.5 kg.

    a) Which of these packages has the lowest unit price?

    b) If a customer needs 2.5 kg, which combination of packages should he or she buy to get the best price but not have leftover meat?

6. A different store sells boneless steaks for the following prices:

    - $4.25 for 250 g;
    - $7.95 for 500 g; and
    - $29.50 for 2 kg.

    Which of these packages has the lowest unit price? How do these prices compare to those in question 5?

Extend your thinking

7. A potash mining company in northern New Brunswick is buying industrial first-aid kits in bulk. First-aid kits are available in three sizes.

    - A small kit costs $42.50 and contains enough supplies to meet the needs of 1–9 workers.
    - A medium-sized kit costs $58.25 and will serve 10–40 workers.
    - A large kit costs $70.50 and will serve 41–75 workers.

    Jason, the buyer, needs to buy kits for 250 workers. Which combination of kits will be the least expensive? What will the total cost be before taxes?

BUILD YOUR SKILLS

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1. Max owns a clothing store. He buys an order of shirts for $22.75 per shirt. In order to make a profit, he wants to mark them up 60%. What will the list price of the shirts be for customers?

2. An outfitter in St. John's, NL, sells full-brim aluminum hard hats for $49.95 and steel-toed work boots for $129.95. If you purchase a hard hat and two pairs of boots, what will your total cost be, including tax? How much HST will you pay on these three items?

3. If the outfitter in question 2 opens a store in the Evangeline Region, PEI, where exploration for oil is taking place, it may sell hard hats and work boots for 10% more than it charges in St. John's. What would you pay for a hard hat and a pair of steel-toed boots in PEI, taking into account that GST of 5% and PST of 10% apply?

4. Roberta works for a retail hardware store in Bathurst, NB. She buys 3 sinks for $89.95 each, 2 bathtubs at $639.95 each, and 2 faucets for $74.95 each. She sells one sink, one bathtub, and 2 faucets to a customer at a 25% markup. How much does she charge her customer?

5. Erma is a member of the Eastern Woodland Métis Nation. She runs an organic blueberry farm in the Annapolis Valley, NS. She sells her crop in three ways: direct to customers who come to the farm, at $3.50 a quart; at the local farmers' market at $3.99 a quart; and wholesale to organic food stores for $2.00 a quart.

    a) If she sells 50 quarts at $3.50, 175 quarts at $3.99, and 250 quarts at $2.00, what is her total income?

    b) Compare her income from 100 quarts sold directly at the farm to 100 quarts sold to a wholesaler. What is the difference in income? Why would she sell to a wholesaler?

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6. When Julie completed the baker apprenticeship program and started her own cake business, her first order was to provide cakes for 100 people at a business luncheon. After calculating the cost of all her supplies and ingredients, her time, and the cost of gas for delivering the cakes, she found that her price of $2.50 per portion did not cover her costs.

   a) If she increased her price by 15%, what would the new unit price be?

   b) How much more would she make on 100 servings at the higher price?

   c) If she thought customers would reject a 15% price increase, how might she lower her costs?

7. At the end of the summer season, Marie has a lot of unsold $29.99 tank tops left in her Rocky Harbour, NL, shop. She decides to put the remaining tank tops on sale. What might the sale price be? How will this sale affect her total profits? What reasons might Marie have for doing this?

This woman is an apprentice

Extend your thinking

8. You plan to sell imported cheese in your butcher shop and need to set a price. If the wholesale price you pay for a 10 kg wheel of medium Dutch Gouda is $175.00, what is the price for 250 grams if you sell it at cost?

   a) What factors will you consider in setting the retail price?

   c) If you found that your supply of Gouda exceeded the demand for it, you might decide to offer a 15% discount off the regular price. What would a customer now pay for 250 g?

   d) At the discounted price (15% off), would you still be making a profit? Explain your thinking.

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BUILD YOUR SKILLS

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*Setting up your first apartme
you to research the best pric
furnishings.*

1. A supermarket regularly charges $5.89 for a package of pizza snacks. During a sale, the supermarket offers this promotion: "Buy one at the regular price, get a second one for half price."

    a) If Marylyn buys two packages, what will she pay?

    b) Approximately what percent does Marylyn save during this sale? Explain your reasoning.

2. Rémy works at a sports store in Moncton, NB, where the price of a best-selling tennis racquet is $49.95. His friend Alain works at a competitor's store where the regular price of a similar tennis racquet is $55.95, but it is on sale at 15% off. Alain says his store offers the best price.

    a) Calculate the total price of the tennis racquet at each store, including HST.

    b) Is Alain right? Explain why or why not.

3. A hairstylist at Top Cuts is preparing a discount offer. The regular cost of highlighting is $55.00. To attract more customers early in the day, he offers 15% off for appointments before 10:00 am. Mid-afternoon is also a slow time on Wednesdays and Thursdays, so he offers $5.00 off coupons for appointments made during those times.

    a) Which appointment time will get you the lowest price?

    b) Which promotion do you think will appeal to more people, coupons or percent off? Explain your thinking.

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4. A roofer in Deer Lake, NL, buys metal roofing at a builder's discount of 20% off the retail price of $27.50 per square metre. If the roof of your house is 74 square metres and the roofer passes on 50% of the discount he receives to you, how much will you pay for the materials? If his usual hourly rate for labour is $36.00 and he gives you a 5% discount, how much will you save in labour costs if the job takes 16 hours? Omit the taxes in your calculations.

5. Pole mount industrial fans are on sale at two wholesalers in Sydney, NS. An electrician needs 20 fans for installation in an office building. The sale price at the first store is 5% off the regular price of $157.00. The price at the second store is $165.00 each, but $149.00 for 10 or more. HST applies.

    a) Calculate the total cost of 20 fans at each store.

    b) Which wholesaler offers a better buy?

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6. Drumdancer Arts and Crafts Shop is located in Happy Valley-Goose Bay, NL. The shop was opened to promote and develop Aboriginal arts, culture, and crafts. The shop has the following items on sale:

   - A print of an Inuit *tupiq*, or skin tent, that was $31.99 is marked down to $19.99.
   - A CD featuring throat singers Tama Fost and Jennie Williams that was $24.95 is marked down to $21.99.
   - A small replica of a bow drill that was $49.99 is marked down to $24.99.

   a) Calculate what percentage of markdown each item has been given.

   b) If a customer bought all 3 items, how much would he or she save in total? On which item would the customer save the most?

7. An exterior house painter in Halifax, NS, is offering a sales promotion. If you sign a contract to have your house painted and get a neighbour or friend to sign a contract at the same time, you each get a discount of 5% on the labour rate of $26.00/hr. HST applies.

   a) If your house takes 55 hours to paint, how much would you pay at the regular price and how much would you pay with the discount? How much did you save?

   b) If the second person's house takes 60 hours to paint, how much more would that person save than you would save?

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FIGURE 1.2

Exchange Rates Compared to the Canadian Dollar

Bank buying rate	Country	Currency units	Bank selling rate
0.950964	Australia	dollar	1.006964
1.580814	Austria	euro	1.644814
1.580814	Belgium	euro	1.644814
0.534900	Brazil	real	0.697000
0.127100	China	yuan	0.162600
0.210778	Denmark	krone	0.221778
1.996146	England	pound	2.060146
0.159300	Egypt	pound	0.217300
1.580814	European Community	euro	1.644814
1.580814	Finland	euro	1.644814
1.580814	France	euro	1.644814
1.580814	Germany	euro	1.644814
1.580814	Greece	euro	1.644814
0.128451	Hong Kong	dollar	0.133451
1.580814	Italy	euro	1.644814
0.009295	Japan	yen	0.009855
0.012510	Kenya	shilling	0.017300
0.083443	Mexico	peso	0.108443
1.580814	Netherlands	euro	1.644814
0.748264	New Zealand	dollar	0.798264
1.996146	N. Ireland	pound	2.060146
0.194863	Norway	krone	0.205863
0.012360	Pakistan	rupee	0.019360
1.580814	Portugal	euro	1.644814
1.580814	Republic of Ireland	euro	1.644814
1.996146	Scotland	pound	2.060146
0.737280	Singapore	dollar	0.762280
1.580814	Spain	euro	1.644814
0.165558	Sweden	krona	0.175558
0.982007	Switzerland	franc	1.017007
0.026550	Thailand	baht	0.035120
1.004350	United States	dollar	1.038650

* Rates as of October 24, 2008

BUILD YOUR SKILLS

Use the table on p. 45 to answer the following questions.

1. What would the cost be, in Canadian dollars, to buy the following currencies from a bank?

   a) euro

   b) Hong Kong dollar

   c) Pakistan rupee

Switzerland still uses francs rather than euros.

2. If you had the following foreign currencies, what rate would you use when a bank is buying the currency from you?

   a) Japanese yen

   b) Australian dollar

   c) United States dollar

3. Calculate the amount of money you would receive in Canadian dollars if you sold the following currencies to a bank.

   a) 4500.00 pesos

   b) 25 000.00 Hong Kong dollars

   c) 2200.00 euros

   d) 8545.00 Scottish pounds

4. Megan is attending a three-day trade fair in Germany. Her travel allowance is $1200.00 CAD. How much money will she have in the local currency for her expenses in Germany?

5. Opal is planning a trip to Europe. She wishes to buy $650.00 Canadian dollars' worth of each of the following currencies. How much of each currency will she have?

   a) euro

   b) Swiss francs

   c) Swedish kronor

   d) If Opal cancels her trip to Sweden and changes the kronor back into Canadian dollars, how much will she receive? Why does she receive a lower amount back in Canadian dollars than she initially paid?

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6. Chris is planning a golfing trip. He plans to golf at five highly rated international golf courses. He estimates how much money he will need in each of the different currencies. For each of the countries that he will visit, calculate how much he will need in Canadian dollars (CAD). What is the total amount of Canadian money he needs?

GOLF VACATION

Country	Golf course	Estimated funds needed	Estimated funds needed in $CAD
United States	Pebble Beach	US$5000.00	
Scotland	St. Andrew's	£8500.00	
China	Spring City Golf & Lake Resort	¥26 600.00	
Singapore	SAFRA Resort & Country Club	S$15 000.00	
Austria	Leopoldsdorf	€4000.00	

SAMPLE

Extend your thinking

T 7. Your company produces a line of herbal vinegars. In Canada, you sell each bottle of vinegar for $8.95 before taxes. Your company is planning to expand and sell its products in the United States and Australia.

a) What would the equivalent price be for the bottle of vinegar in US and Australian dollars? Use www.rbcroyalbank.com or a similar site to calculate your conversion.

b) The costs of shipping and exporting are $1.00/bottle to the United States and $2.00/bottle to Australia. How much will the retail price be in the US and Australia if you incorporate shipping costs and set the price so that the income per bottle is equal to the Canadian income of $8.95 per bottle before taxes?

ı a variety of
ıg apple cider,
eberry.