

Name: _____

Date: _____

Percent of a Number

Key Ideas Review

1. ~~Label each example with the mental math strategy it represents: halving, doubling, or dividing by ten. Then, complete the calculations.~~

a) 1% of \$66

10% of \$66

50% of 66

b) 5% of 180

10% of 180

20% of 180

c) 20% of \$3.20

10% of \$3.20

5% of \$3.20

2. Circle the terms that correctly complete this statement.

To calculate the percent of a number, write the percent as a (decimal/fraction), and then (divide/multiply) by the number.

Practise and Apply

3. Use mental math to determine each of the following. Show your thinking.

a) 200% of 4500

d) 30% of 70

b) 0.1% of 600

e) $\frac{4}{5}$ % of 15

c) $1\frac{1}{4}$ % of 80

f) 450% of 300

4. What is the percent of each number? Give your answer to the nearest hundredth.

a) $\frac{1}{5}\%$ of 630

b) $23\frac{7}{8}\%$ of 300

c) 245% of \$356.80

d) $68\frac{3}{4}\%$ of 730

e) 360% of \$129.95

5. The commission for the sale of a house was $6\frac{3}{4}\%$. If the house sold for \$345 000, how much was the commission? Show your thinking.

6. Table salt is a chemical compound of sodium and chlorine. Recommended daily intake is about 1700 mg. If Canadians consume 182% of this amount on average, how much sodium is one person eating daily?

7. Estimate the following answers, then calculate. Show your thinking.

- a) Miguel bought a car for \$4700. He made a down payment of $19\frac{1}{2}\%$. How much was the down payment?



- b) About 5.6% of Canadians have Type 2 diabetes. If Canada's population is 32 million, about how many Canadians have this condition?

- c) The 4900-seat hockey arena was 63% full. How many people were at the game?

8. The Nile River is about 209% the length of the Yukon River. If the Yukon River is 3168 km, how long is the Nile River (to the nearest km)? Show your work.



Combining Percents

Key Ideas Review

Match the method of calculating percent in column A with an example in column B.

A	B
1. To determine amounts that result from consecutive percent increases or decreases, percents of percents can be used. ____	a) 111% of $200 = 1.11 \times 200 = 222$
2. To calculate the increase in a number, multiply the original number by a single percent greater than 100. ____	b) 11% of $200 = 0.11 \times 200 = 22$ $200 + 22 = 222$
3. Percents can be combined by adding. ____	c) $5\% + 6\% = 11\%$
4. To calculate the increase in a number, add the percent change to the original number. ____	d) 20% of $50 = 10$ $50 - 10 = 40$ 20% of $40 = 8$ $40 - 8 = 32$

Practise and Apply

5. ~~Estimate and then~~ calculate each bill, including 13% in taxes.

a) shirt	\$39.20
jeans	\$79.80

c) flashlight	\$9.75
3-piece pliers	\$11.95
super glue	\$1.63
detergent	\$7.67

b) 4 binders	\$2.25 each
geometry set	\$1.65
calculator	\$10.35

d) 2 toothpaste	\$2.79 each
3 toothbrushes	\$7.99 each
dental floss	\$4.49
Estimate:	

6. The Casa Della restaurant had 40 diners for lunch on Wednesday. Calculate the number of diners the next night if there was a 15% increase.

7. A clothing store had a 30% off sale one week. The next week, the sale offered another 20% off all jackets.

a) If the original price of a jacket was \$120, what was the price in the second week? Show your thinking.

b) Would a 50% off sale result in a lower price? Explain.

8. The Electronics for Less store has a 25% off sale on all cameras.

a) What is the sale price of a \$240 camera?

b) Find the total cost of the discounted camera including 5% GST and 6% PST. Show your thinking.

9. The White Chuck Glacier is in the Cascade Range of western North America. In 1958 it covered 3.1 km². By 2002 it had lost about 70% of its area. What was the area of the glacier in 2002? Show your thinking.

10. Patrick has saved \$300 for a new stereo. He finds a \$950 stereo on sale for 30% off. If GST is 5% and the PST is 6%, how much money will Patrick have to borrow in order to buy this stereo? Show your thinking.



11. In Mr. Patterson's Math classes, 80% of his 110 students have their own calculators. How many of his students do not have their own calculators? Show your thinking.

12. Sofia started a new job that paid \$8/h. In the first two years she was guaranteed a pay raise of 10% every six months. What will be her hourly wage after one year? Show your thinking.