

KEY

Math 8 Chapter 5 Practice Test

1. Complete the following table

Fraction (lowest terms)	Decimal	Percent
$\frac{15}{100} = \frac{3}{20}$	0.15	15%
$\frac{85}{100} = \frac{17}{20}$	0.85	85%
$\frac{4}{5}$	0.8 or 0.80	80%
$\frac{40}{100} = \frac{4}{10} = \frac{2}{5}$	0.4	40%
$\frac{0.7}{100} = \frac{7}{1000}$	0.007	0.7%
$\frac{7}{8}$	0.875	87.5%
$\frac{0.03}{100} = \frac{3}{10000}$	0.0003	0.03%
$\frac{139}{100}$ or $1\frac{39}{100}$	1.39	139%
$\frac{11}{10}$	1.1	110%

2. In 1895, the population of a small town was 2120. By 1905, the population increased to 115% of the 1895 figure.

a) What was the population in 1905?

$$\frac{115}{100} = \frac{x}{2120}$$

$$x = 2438$$

b) Find the increase in population from 1895 to 1905.

$$2438 - 2120 = 318$$

~~$$\frac{318}{2120} = \frac{x}{100}$$

$$x = 15\%$$~~

7. HST is 12%. Calculate the selling price of each item before and after tax.

a) \$125 item at 10% off

Before: \$112.50

After: \$126

$$\frac{10}{100} = \frac{x}{125}$$

$$x = 12.5$$

$$125 - 12.5 = 112.50$$

$$\frac{12}{100} = \frac{x}{112.5}$$

$$x = 13.50$$

$$112.50 + 13.50$$

$$= 126$$

b) \$1820 item at 25% off

Before: \$1365

After: \$1528.80

$$\frac{25}{100} = \frac{x}{1820}$$

$$x = 455$$

$$1820 - 455 = 1365$$

$$\frac{12}{100} = \frac{x}{1365}$$

$$x = 163.80$$

$$1365 + 163.80$$

c) \$6.80 item at 15% off

Before: \$5.78

After: \$6.47

$$\frac{15}{100} = \frac{x}{6.80}$$

$$x = 1.02$$

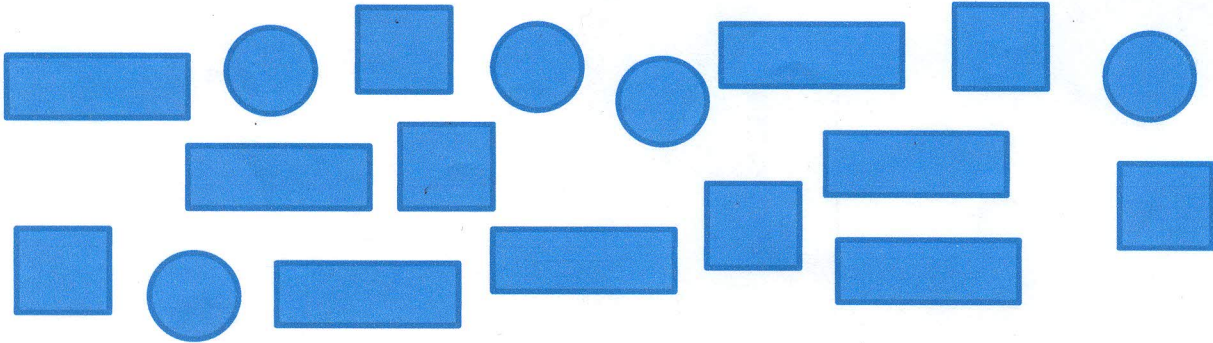
$$6.80 - 1.02 = 5.78$$

$$\frac{12}{100} = \frac{x}{5.78}$$

$$x = 0.69$$

$$5.78 + 0.69 = 6.47$$

10. Write each ratio.



a) squares to circles

6:5

b) rectangles and circles to squares

12:6

c) circles to total figures

5:18

11. Write three ratios equivalent to 36:18. Show your work.

36:18 =

18:9

6:3

4:2

2:1

72:36

etc.

12. Write each ratio in simplest form.

a) $25 : 15 = 5 : 3$
 $\div 5 \quad \div 5$

b) $28 : 35 = 4 : 5$
 $\div 7 \quad \div 7$

c) $45 : 72 = 5 : 8$
 $\div 9 \quad \div 9$

13. Class 8B has 3 globes for every 7 students. Class 8D has 2 globes for every 5 students. Each class has the same number of students. Which class has more globes? Explain.

Strategy:
Find same
second
number

$$\frac{3}{7} = \frac{15}{35} \quad \frac{2}{5} = \frac{14}{35}$$

MORE CLASS 8B has more globes.

14. At a summer camp, for every 3 students who sailed, 5 kayaked. Forty-five students kayaked. How many students sailed?

sail $\frac{3}{5} = \frac{x}{45}$
 kayak

$x = 27$

15. In a bag of coloured cubes, the ratio of red cubes to the total number of cubes is 5 : 7. If there are 105 cubes in the bag, how many cubes are red?

red $\frac{5}{7} = \frac{x}{105}$
 total

$x = 75$

16. Express as a unit rate.

a) The van travels 280 km in 4 hours.

$\frac{280 \text{ km}}{4 \text{ hrs}} = \frac{x}{1 \text{ hr}}$

$x = 70 \text{ km/hr}$

b) Mikki jogs 2 km in 20 min.

$\frac{2}{20 \text{ min}} = \frac{x}{60 \text{ min}}$

$x = 3 \text{ km/hr}$

17. Which is the better buy? 2.9 L of detergent for \$4.56 or 3.8 L for \$5.78

$\frac{\$4.56}{2.9 \text{ L}} = \frac{x}{1 \text{ L}}$

$x = \$1.57/\text{L}$

$\frac{\$5.78}{3.8 \text{ L}} = \frac{x}{1 \text{ L}}$

$x = \$1.52/\text{L}$

BETTER BUY

3. Find the whole amount in each case.

a) 8% is 56 kg.

$$\frac{8}{100} = \frac{56}{x}$$

$$x = 700$$

b) 125% is 85 cm.

$$\frac{125}{100} = \frac{85}{x}$$

$$x = 68$$

c) 0.48% is 84 L.

$$\frac{0.48}{100} = \frac{84}{x}$$

$$x = 17500$$

4. In a sponsored walk for charity, 560 students participated. Of these, 0.72% completed the 15-km walk. How many students completed this distance?

$$\frac{0.72}{100} = \frac{x}{560}$$

$$x = 4 \text{ students}$$

only 4!!! why so few?
weird!

5. Write each increase or decrease as a percent.

a) The price of gasoline rose from 132.5 cents/litre to 137.8 cents/litre.

Percent increase = $137.8 - 132.5 = 5.3$

$$\frac{x}{100} = \frac{5.3}{132.5}$$

$$x = 4\%$$

b) The number of trucks crossing the border fell from 3240 to 2673.

Percent decrease = $3240 - 2673 = 567$

$$\frac{x}{100} = \frac{567}{3240}$$

$$x = 17.5\%$$

6. A water tank is filled with 1500 L of water. In 1 hour, the tank loses 5.4% of the water due to leakage.

What is the volume of water in the tank after 1 hour?

$$\frac{5.4}{100} = \frac{x}{1500}$$

$$x = 81$$

$$1500 - 81 = 1419 \text{ Litres}$$