

## Year 5 Term 4 Homework

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<b>Date:</b> _____	<b>Score:</b> _____

### Table of contents

<b>9 Year 5 Term 4 Week 9 Homework</b>	<b>1</b>
9.1 Term 4 Review . . . . .	1
9.1.1 Topic 1 — Perimeter and area . . . . .	1
9.1.2 Topic 2 — Volume and capacity . . . . .	2
9.1.3 Topic 3 — Ratio . . . . .	3
9.1.4 Topic 4 — Rate . . . . .	4
9.1.5 Topic 5 — Percentages . . . . .	5
9.1.6 Topic 6 — Chance . . . . .	6
9.1.7 Topic 7 — Time . . . . .	7
9.1.8 Topic 8 — Tree Diagrams . . . . .	8
9.1.9 Topic 9 — Venn Diagrams . . . . .	9
9.1.10 Problem Solving (LCM) . . . . .	10
9.1.11 Problem Solving (HCF) . . . . .	11
9.1.12 Problem Solving (Working Backwards) . . . . .	12
9.1.13 Problem Solving (Guess and Check) . . . . .	13
9.1.14 Problem Solving (Simultaneous Equations) . . . . .	14
9.1.15 Problem Solving (Divisibility) . . . . .	15
9.1.16 Problem Solving (Work Problems) . . . . .	16

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## 9 Year 5 Term 4 Week 9 Homework

### 9.1 Term 4 Review

#### 9.1.1 Topic 1 — Perimeter and area

##### Exercise 9.1.1

1. The perimeter of a rectangular field is 120 m. If the length is:

(a) twice the width, what is the length of the field?

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(b) 12 m greater than the width, what is the area of the field?

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2. Five square tables are pushed next to each other to form one large rectangular table. If the perimeter of the new table is 7.2 m.

(a) What is the perimeter of one square table?

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(b) What is total area of the large rectangular table?

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3. A building plan uses a scale of 1 cm to represent 5 m.

(a) What distance are represented by the a length of 1.5 cm?

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(b) What distant are drawn on the plan if the actual building measures 5.5 m?

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**9.1.2 Topic 2 — Volume and capacity****Exercise 9.1.2**

1. How many golf balls can be placed in a cardboard box measuring 24 cm by 18 cm by 9 cm if each golf ball is placed in a cube of side 3 cm.

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2. Boxes measuring 10 cm by 10 cm by 5 cm are packed in a carton whose dimensions are 120 cm by 50 cm by 40 cm. What is the maximum number of boxes can be packed in the carton?

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3. A squared-based prism of height 12 cm is dropped into a container which containing 1900 mL of water. The water and the prism now have a volume of 2.2 L.

(a) Find the volume of the prism.

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(b) Find the length of the square base.

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4. A rectangular container of height 18 cm and base 12 cm by 15 cm is filled with water to a height of 10 cm. By how much will the water level rise if a stone of volume  $432 \text{ cm}^3$  is dropped into the container?

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**9.1.3 Topic 3 — Ratio****Exercise 9.1.3**

1. Find the missing numbers:

(a) 22.5% of 24 hours is \_\_\_\_\_ hours.

(b) 421.5 mL is 75% of \_\_\_\_\_ mL.

(c) 125 g of \_\_\_\_\_ is 25%.

(d)  $48 \text{ cm}^2$  is \_\_\_\_\_% of  $75 \text{ cm}^2$

(e) 72.5 % of \$800 is \_\_\_\_\_ .

2. Last year, the ratio of the number of boys to girls in a tennis club is 3 : 5. This year 84 more boys join the club. There are now 3 times as many boys as girls. How many boys are there in the tennis club?

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3. A water tank is  $\frac{1}{5}$  full of water. It would take another 36 L to fill it up. What is the capacity of the water tank?

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4. The ratio of Tony's money to Ken's money is 7:4. Ken has \$390 less than Tony. How much money do they have altogether?

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5. 196 sweets are shared among 4 children in the ratio 2 : 3 : 4 : 5. Find the difference of the number of sweets between the greatest and the smallest shares.

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**9.1.4 Topic 4 — Rate****Exercise 9.1.4**

1. Change the following into the units shown in brackets:

(a)  $2\frac{1}{4}$  hours = \_\_\_\_\_ (seconds)

(b) 3.42 hours = \_\_\_\_\_ (seconds)

(c) 2.25 hours = \_\_\_\_\_ (minutes)

(d) 7.75 days = \_\_\_\_\_ (hours)

(e) 51 weeks and 7 days = \_\_\_\_\_ (days)

(f)  $6\frac{1}{4}$  years = \_\_\_\_\_ (months)

(g) 54 km per hour = \_\_\_\_\_ (metre/minute)

(h)  $\frac{48}{5}$  km/h \_\_\_\_\_ (metre/second)

(i)  $1\frac{1}{6}$  metre/second \_\_\_\_\_ (km/h)

2. A racing car travels at 210 km/h. How far will it travel in  $2\frac{1}{3}$  hours?

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3. A train covers 60 km in 35 minutes. How far will it go in  $1\frac{3}{4}$  hours?

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4. A country train travels at 75 km/h between two towns. The trip takes  $2\frac{1}{3}$  hours. What is the distance between these two towns?

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**9.1.5 Topic 5 — Percentages****Exercise 9.1.5**

1. Find the missing numbers

(a) 24 out of 80 is \_\_\_\_\_ % .

(b)  $18 \text{ cm}^2$  is \_\_\_\_\_ % of  $75 \text{ cm}^2$  .

(c) 162.5% of \$800 is \_\_\_\_\_ .

(d)  $12 \text{ cm}^2$  is \_\_\_\_\_ % of  $60 \text{ cm}^2$  .

(e) 12.5 % of 48 hours is \_\_\_\_\_ hours.

(f) 1250 g of \_\_\_\_\_ g is 25%.

(g) 625 mL is 25% of \_\_\_\_\_ mL.

2. What number must be placed in the box?  $35\% = \frac{49}{\square}$  \_\_\_\_\_

3. William went to the Easter Show. He spent 18% of his money on the entry fee and 26% on show-bags. How much money was left if he had \$150 at first?

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4. Mike had 250 bookmarks. He sold 64% of them at \$1.45 each and each of the rest at 25 cents more. What was the total sale?

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5. In a test of 80 students, 85 % passed. How many students failed the test?

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**9.1.6 Topic 6 — Chance****Exercise 9.1.6**

1. A bag contains 3 red marbles, 4 blue marbles and 5 white marbles. What is the chance of drawing out:

(a) a white marble? \_\_\_\_\_

(b) a blue marble or a white marble? \_\_\_\_\_

(c) a red marble or a blue marble? \_\_\_\_\_

2. One card is selected from a standard deck of 52 playing cards. Find the probability of getting a black card that is a face card.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

3. A dice is tossed twice.

(a) Find the probability that the sum is 8.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

(b) Find the probability that the sum is even and greater than 8.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

4. A bag of sweets contain 12 mints, 8 toffees and 16 strawberry. They are all the same size and shape and are wrapped in foil. You are asked to take one sweet out of the bag with you eyes closed. What is the probability that it is:

(a) a mint \_\_\_\_\_

(b) not a toffee \_\_\_\_\_

(c) a mint or a toffee \_\_\_\_\_



**9.1.7 Topic 7 — Time****Exercise 9.1.7**

1. A certain clock gains two minutes of time every hour. If the clock shows the correct time now, in how many hours will it next show the correct time again?

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2. A plane due at 6.30 a.m. arrived 38 minutes early. When did it arrive?

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3. Which of the following years are leap years?

1938 , 2002 , 2004 , 1824 , 1992 , 2020 .

4. How many days in November December? \_\_\_\_\_

5. How many seconds in 25 minutes? \_\_\_\_\_

6. How many minutes in 36 hours? \_\_\_\_\_

7. How many seconds in  $4\frac{1}{4}$  hours? \_\_\_\_\_

8. How many minutes in  $3\frac{1}{4}$  hours? \_\_\_\_\_

9.  $0.25\text{ h} =$  \_\_\_\_\_ minutes .

10.  $2.8\text{ minutes} =$  \_\_\_\_\_ seconds .

11. The time is now 11:15 a.m. What time will it be in 2 hours and 51 minutes?

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12. The time is now 10:15 a.m. What time was it 2 hours and 35 minutes ago?

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13. Ken has a 12:00 noon appointment that was 25 km from his home. He drove from his home at an average speed of 60 km/h and arrived 12 minutes late. At what time did Ken leave home for the appointment?

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**9.1.8 Topic 8 — Tree Diagrams**

**Exercise 9.1.8**

1. *Sam and Ben are planning to go to Darling Harbour. They can travel home to the city by train, ferry or car. From the city they can go to Darling Harbour by walking, taxi and using monorail.*

*(a) Draw a tree diagram which represents the information given.*

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*(b) How many different ways they can travel from home to Darling Harbour?*

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2. *How many different four-letter code words can you make using the letters A, B, C and D if repetition is not permitted?*

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3. *How many different four-letter code words can you make using the letters A, B, C and D if repetition is permitted?*

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4. *How many possible outcomes if you toss a coin four times?*

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**9.1.9 Topic 9 — Venn Diagrams****Exercise 9.1.9**

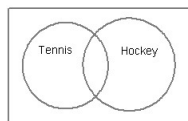
1. There are 28 people in a restaurant; 18 drink coffee and 15 drink lemonade. Everyone has either one or both of the drinks. How many people have both?

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2. In a class of 29 students. 12 student play tennis and 15 play hockey. 5 students play both sports. How many play neither tennis nor hockey?

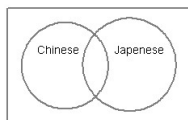



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3. In a class of 28 students. 18 study Chinese as second language. 16 study Japanese as second language. If every student have to choose as least one second language, how many students study both languages?




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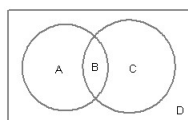
4. In a group of 30 high school students, 8 take French, 12 take Spanish and 3 take both languages. How many students of the group take neither French nor Spanish?

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5. Here is a group of men and a group of people who are 40 years old. Which part shows men who are 40 years old?



**9.1.10 Problem Solving (LCM)**

**Exercise 9.1.10**

1. Find the LCM of 32 and 24.

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2. Find the LCM of 48 and 56.

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3. Find the LCM of 24, 32 and 48.

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4. Find the LCM of 36, 48 and 108.

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5. Find the LCM of 18, 32 and 68.

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**9.1.11 Problem Solving (HCF)**

**Exercise 9.1.11**

1. Find the HCF (38, 95)

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2. Find the HCF of 48 and 144.

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3. Find the HCF of 198 and 306.

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4. Find the HCF of 18, 45 and 72.

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5. Find the HCF (36, 90, 120)

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**9.1.12 Problem Solving (Working Backwards)****Exercise 9.1.12**

1. Suppose you enter an elevator at a certain floor. Then the elevator moves up 5 floors, down 7 floors, and up 3 floors. You are then at floor 4. At which floor did you initially enter the elevator?

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2. Suppose five days after the day before yesterday is Sunday. What day of the week will tomorrow then be?

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3. Alice and Bob had a total of 48 marbles. Alice gave  $\frac{1}{4}$  of her marbles to Bob. Bob then gave  $\frac{1}{3}$  the total number of marbles he had to Alice. In the end, each of them had the same number of marbles. How many marbles had each child?

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4. May and Jane had a total of 600 beads. May gave  $\frac{1}{6}$  of her beads to Jane. Jane then gave  $\frac{1}{4}$  of the total number of beads she had to May. In the end, each of them had the same number of beads. How many beads had each girls at first?

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**9.1.13 Problem Solving (Guess and Check)****Exercise 9.1.13**

1. At a fruit market 2 lemons and 3 pears cost \$1.60 and 3 lemons and 2 pears cost \$1.40. Find the cost of:

(a) 5 lemons and 5 pears.

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(b) 1 lemon and 1 pear.

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(c) the cost of each fruit.

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2. Ken buys 8 tickets for school concert and spends \$100. An adult's ticket costs \$14 and a child's ticket cost \$10. How many of each did Ken buy?

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3. Helen has some coins in her piggy bank. She has twice as many 10-cent coins as 5-cent coins. She has one less 20-cent coin than she does 10-cent coins, and she has four 50-cent coins. The combined value of her 20 cent and 50-cent coins is \$3. How many coins of each kind does Helen have?

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4. 12 years ago, Mary was thrice as old as Paul and Larry was 18 years younger than Mary. What is the total age of the three people if Larry is 30 years old now?

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5. The sum of two numbers is 46 and the difference of these two numbers is 18. Find the smaller number.

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**9.1.14 Problem Solving (Simultaneous Equations)****Exercise 9.1.14**

1. The cost of 1 drink and 3 donuts is \$3.00. At the same shop, 2 drinks and 5 donuts cost \$5.20. How much does 1 drink cost?

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2. In a shop, 1 apple and 2 oranges cost \$1.60 and 2 apples and 1 orange cost \$1.70.

(a) Find the cost of 3 apples and 3 oranges.

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(b) 1 apple and 1 orange

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(c) 2 apples \_\_\_\_\_

(d) 2 oranges \_\_\_\_\_

3. Suppose  $K$ ,  $L$  and  $M$  represent the scores in the three regions of a dartboard. The sum of  $K$  and  $L$  is 7, the sum of  $L$  and  $M$  is 17. and the sum of  $K$  and  $M$  is 14. What are the values of  $K$ ,  $L$  and  $M$ ?

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4. Linda has twice as much money as Kathy. When Linda gave Kathy \$50, they both had the same amount.

(a) How much do they have altogether?

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(b) How much did Linda have originally?

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**9.1.15 Problem Solving (Divisibility)****Exercise 9.1.15**

1. Find the missing digit so that the resulting number is divisible by 9.

(a)  $234 \underline{\quad} 68$

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(b)  $\underline{\quad} 469$

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(c)  $6 \underline{\quad} 54321$

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2. Find all possible value of the missing digits in  $\underline{\quad} 5 \underline{\quad}$  so that the resulting number is divisible by 9.

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3. Find all possible value of the missing digits in  $\underline{\quad} 5 \underline{\quad}$  so that the resulting number is divisible by 3.

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4. Use the divisibility test to determine if each number is divisible by 11.

(a) 7259

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(b) 83908

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(c) 1427349

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**9.1.16 Problem Solving (Work Problems)**

**Exercise 9.1.16**

1. Working alone, a man requires five hours to do a certain job. A child working alone requires eight hours to do the same job. How long will it take the man and the child working together to finish the job?

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2. If 24 workers can do the a job in 5 days, work out how long it will take:

(a) 1 person \_\_\_\_\_

(b) 8 people \_\_\_\_\_

(c) 12 people \_\_\_\_\_

3. If 30 workers can do half the task in 9 days, find the number of days that will be need for:

(a) 15 workers to do it all \_\_\_\_\_

(b) 12 workers to do it all \_\_\_\_\_

(c) 6 workers to do half of it. \_\_\_\_\_

4. If 20 people can do a job in 12 days:

(a) how long would it take if only 5 people were employed?

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(b) how many more people must be employed to do the job in only 8 days?

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