

## Year 5 Term 4 Homework

<b>Student Name:</b> _____	<b>Grade:</b> _____
<b>Date:</b> _____	<b>Score:</b> _____

### Table of contents

<b>5 Year 5 Term 4 Week 5 Homework</b>	<b>1</b>
5.1 Topic 1 — Percentages . . . . .	1
5.2 Topic 2 — Simultaneous Equations . . . . .	2
5.3 Topic 3 — Chance . . . . .	3
5.4 Topic 4 — Time . . . . .	4
5.5 Problem Solving (LCM) . . . . .	5
5.6 Test Paper 5 . . . . .	7
5.6.1 Part A . . . . .	7
5.6.2 Part B . . . . .	8
5.6.3 Part C . . . . .	9
5.6.4 Part D . . . . .	10

This edition was printed on February 15, 2017.

Camera ready copy was prepared with the **L<sup>A</sup>T<sub>E</sub>X<sub>2</sub> $\epsilon$**  typesetting system.

Copyright © 2000 - 2017 Yimin Math Centre ([www.yiminmathcentre.com](http://www.yiminmathcentre.com))

## 5 Year 5 Term 4 Week 5 Homework

### 5.1 Topic 1 — Percentages

1. Find the missing numbers:

(a) 24.5% of 12 hours is \_\_\_\_\_ hours.

(b) 1955 mL is 85% of \_\_\_\_\_ L.

(c) 377 g of \_\_\_\_\_ kg is 58% .

(d)  $48\text{ m}^2$  is \_\_\_\_\_ % of  $150\text{ m}^2$  .

(e) 12 minutes is \_\_\_\_\_ % of 2 hours .

2. What is the percentage of one side of a square to its perimeter?

---

---

3. Peter bought a second-hand car for \$2800, repaired it and sold it for \$3220. What is his profit as a percentage of the cost?

---

---

4. Tony bought a new lap-top for \$2300 and after one year it lost 35% of its value. What was the lap-top worth after 12 months?

---

---

5. John donates \$1200 to the charity which is 12% of his yearly salary. What is his yearly salary?

---

---

6. After 65 L of water was taken out of a water tank and there was 46% of water left. What is the capacity of the water tank?

---

---

### 5.2 Topic 2 — Simultaneous Equations

1. If  $A + B + C = 75$ ,  $A - B = 6$  and  $A - C = 15$ . Find the value of A, B and C.

---

---

---

---

2. When sharing \$240 with Adam, David gets two thirds. How much must David give Adam so that they have the same amount?

---

---

---

---

3. The product of two numbers is 221 and their sum is 30. What is the difference between the two numbers?

---

---

---

---

4. Seven dollars were exchanged for 20-cent coins and 5-cent coins. If the number of 20-cent coins was the same as the number of 5-cent coins. How many 20-cent coins were there in the change?

---

---

---

---

5. The sum of the ages of two brothers is 51 years and the difference in their ages is  $\frac{1}{17}$  of the sum. Find the age of the elder brother.

---

---

---

---

**5.3 Topic 3 — Chance**

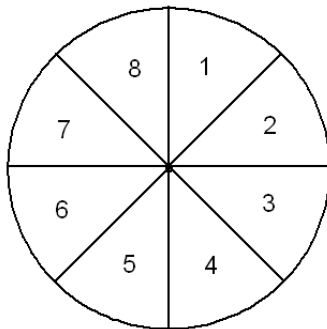
1. If the wheel is spun, what is the probability of these outcomes:

(a) Equal to 5 . \_\_\_\_\_

(b) At least 5 . \_\_\_\_\_

(c) At most 5 . \_\_\_\_\_

(d) Not equal to 5 . \_\_\_\_\_



2. A bag contains 100 balls, each marked with a natural number from 1 to 100. You are asked to take out a ball with your eyes closed. What is the probability that it is:

(a) an even number \_\_\_\_\_

(b) an odd number \_\_\_\_\_

(c) a square number \_\_\_\_\_

(d) not a square number \_\_\_\_\_

(e) not a multiple of 5 \_\_\_\_\_

(f) a multiple of 10 \_\_\_\_\_

3. A bag of sweets contain 12 mints, 8 toffees and 4 chocolate. 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 \_\_\_\_\_

**5.4 Topic 4 — Time**

1. Which of the following years are leap years?  
1935  , 2002  , 2004  , 1824  , 1992  , 2016  .
2. How many days in March and November? \_\_\_\_\_
3. How many seconds in 12 minutes? \_\_\_\_\_
4. How many minutes in 26 hours? \_\_\_\_\_
5. How many seconds in  $2\frac{3}{4}$  hours? \_\_\_\_\_
6. How many hours in  $4\frac{1}{3}$  days? \_\_\_\_\_
7. How many minutes in  $3\frac{1}{4}$  hours? \_\_\_\_\_
8. How many minutes from half past 3 to 9 o'clock? \_\_\_\_\_
9. 0.35 h = \_\_\_\_\_ minutes .
10. 3.6 minutes = \_\_\_\_\_ seconds .
11. David's watch was 8 minutes fast. As he left home he looked at his watch and it read 7:15. He walked for a quarter of an hour. What was the actual time he finished his walk?  
\_\_\_\_\_  
\_\_\_\_\_
12. The time is now 9:15 a.m. What time will it be in 3 hours and 50 minutes?  
\_\_\_\_\_  
\_\_\_\_\_
13. The time is now 9:15 a.m. What time was it 2 hours and 25 minutes ago?  
\_\_\_\_\_  
\_\_\_\_\_
14. If the sun rises at 5:23 a.m. and sets at 7:27 p.m. How long was daylight period?  
\_\_\_\_\_  
\_\_\_\_\_

## 5.5 Problem Solving (LCM)

### Methods of Finding Lowest Common Multiple (LCM) :

1. Listing multiples of given numbers.

#### Example 5.5.1 Find the LCM of 4, 6 and 9.

*Solution:* Multiples of 4: 4, 8, 12, 16, 20, 24, 28, 32, **36**, . . .  
 Multiples of 6: 6, 12, 18, 24, **36**, . . .  
 Multiples of 9: 9, 18, 27, **36**, . . .  
 Therefore the LCM must be 36.

2. Multiples of the highest given numbers.

#### Example 5.5.2 Find the LCM of 4, 6 and 9.

*Solution:*

Multiples of 9	Divisible by 6 ?	Divisible by 4 ?
18	Yes	No
27	No	No
<b>36</b>	<b>Yes</b>	<b>Yes</b>

*Note:* Each of the multiples of 9 is divided by each of the small numbers 6 and 4 until it is divisible by both. The answer must be 36.

3. Prime power factorisation. Find the prime factorisation of each number. The LCM is then the product of the greatest power of each prime that appears in any of the factorisation.

#### Example 5.5.3 Find the LCM of 4, 6 and 9.

*Solution:* Find the prime factors of each:  $4 = 2^2$ ,  $6 = 2 \times 3$ ,  $9 = 3^2$ . The highest powers of primes that appear are  $2^2$  and  $3^2$ . Therefore the LCM =  $2^2 \times 3^2 = 36$ .

4. The LCM algorithm (each number is divided by the prime factors until all the quotients are primes).

<b>3</b>	9, 6, 4
<b>2</b>	3, 2, 4
<b>3</b>	<b>1 2</b>

The LCM is then the product of all the prime factors.  $3 \times 2 \times 3 \times 1 \times 2 = 36$ .

1. Find the LCM of each of the following sets of numbers. (use one of methods mentioned above for each question)

(a) 6, 8 and 10

---

---

---

(b) 24, 36, 54

---

---

---

(c) 108 and 126

---

---

---

(d) 4, 8 and 15

---

---

---

2. At a street parade, the local scout troop found that they could arrange themselves in rows of exactly 6, exactly 7, or exactly 8, with no one left over. What is the least number of scouts in the troop?

---

---

---

3. Tony has a collection of coins that can be arranged in piles so that each contains exactly 9 coins, 10 coins, 11 coins or 12 coins. What is the least number of coins in Tony's collection?

---

---

---

### 5.6 Test Paper 5

#### 5.6.1 Part A

1. What value of Y can make the following statement true? \_\_\_\_\_  
 $Y \div 8 \times 12 = 138$
2. Evaluate  $22 + 8 \div 4 - 12 =$  \_\_\_\_\_ .
3. Express 24 minutes as a ratio of 2 hour 24 minutes. \_\_\_\_\_ .
4. Express 2.008 as a fraction in its lowest term. \_\_\_\_\_ .
5.  $13 + 1.008 + 12.5\% =$  \_\_\_\_\_ (correct to 2 decimal places) .
6. Find the average of 23.4, 34.5, 26.7 and 37.4. \_\_\_\_\_
7. The volume of a cube is  $343 \text{ cm}^3$ . Find the surface area of the cube.

---

---

---

8. What is 389497 rounded off to the nearest 100 and 1000?

---

---

---

9. The product of 2 numbers is 224. If one of the numbers is 28, find the difference between the two numbers.

---

---

---

10. A baker uses 13 eggs to bake 2 cakes. Find the number of eggs he needs to use to bake 32 cakes.

---

---

---



**5.6.2 Part B**

1. A packet of sugar weighs  $2\frac{1}{3}$  kg and a packet of salt weighs  $2\frac{3}{4}$  kg. What is the total weight of 3 packets of sugar and 4 packets of salt?

---

---

---

2. A container containing 20 litres of water is used to fill 25 bottles of equal size. How much water does each bottle hold?

---

---

---

3. A rectangle has a perimeter of 84 cm. The ratio of its breadth to its length is 1 : 6. What is the area of the rectangle?

---

---

---

---

4. In a bag, there are 8 red marbles, 12 green marbles and 24 yellow marbles. Express the number of yellow marbles as a fraction of the total number of red and green marbles.

---

---

---

---

5. David is 14 years old. The ratio of his age to his brother's is 3 : 4. Find the total age of the two boys.

---

---

---

---

**5.6.3 Part C**

1. A square is divided into four congruent rectangles. Each of the four rectangles has a perimeter of 15 cm. How many centimetres are in the perimeter of the square?

---

---

---

2. A bag of rice weighs 10 kg. The rice is repacked into smaller packets each weighing 750g. How much rice will remain after the greatest possible number of packets have been filled?

---

---

---

3. Robert's monthly income is \$2400. He spends \$1000 on food, \$280 on transportation and saves the rest. Express his savings as a fraction of his income in its simplest form.

---

---

---

4. The ratio of girls to boys in a school hall is 5 : 7. If there are 630 boys in the hall. How many more boys are there than girls?

---

---

---

---

5. There are five children in a family, each born in a different year, share a gift of \$250 according to the following arrangement: each child except the youngest, gets \$10 more than his or her next younger brother or sister in the family. How much does the eldest child get?

---

---

---

**5.6.4 Part D**

1. If the sum of five consecutive odd numbers is 345, what is the sum of the smallest and the largest of the five numbers?

---

---

---

---

---

2. A grandfather clock strikes 1 chime at one o'clock, 2 chimes at two o'clock, 3 chimes at three o'clock and so forth. What is the total number of chimes the clock will strike in one day?

---

---

---

---

---

3. A bag contains 300 marbles, each of the same size, but in six different colours. Suppose there are 50 marbles of each colour. What is the smallest number of marbles I must pick to be absolutely sure that there are 4 marbles of the same colour among the marbles I have picked blindfolded?

---

---

---

---

---

4. Suppose that one number contains the same digit as another number, but in reverse order. What is true about the difference of the two numbers?

---

---

---

---

---