CONQUESTA is a member of ASTEMI SCIENCE TECHNOLOGY ENGINEERING MATHEMATICS INNOVATION OLYMPIADS & COMPETITIONS

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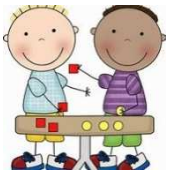
CONQUESTA 2020

Take the Challenge!



Mathematics 2 – Grade 4

Welcome to your Conquesta Olympiad. When you have decided which of the answers is correct, scratch out the letter in the matching square on your answer sheet. Example:- If the answer to question 4 is c, then scratch out the letter c in the square containing c next to the number 4 *(see example 1 below)*. If you've made a mistake and b should have been the answer, neatly cross out the mistake and then scratch out b *(see example 2 below)*.

Example 1:-

4.	a	b		d

Example 2:-

4.	a			d

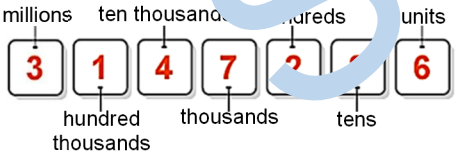
Useful tip:– *When you have number sentences using different operations, apply the rule of **BODMAS**, which is the order of operations:– Firstly, calculate whatever is in **B**rackets, then **O**ther (of, square roots, power of, etc.), then **D**ivision and **M**ultiplication (from left to right as they rank equally), and lastly, **A**ddition and **S**ubtraction (also from left to right).*

Did you know?

- ***Factors** and **multiples** are DIFFERENT things. But they both involve multiplication.*
- ***Factors** are the numbers we can multiply together to get another number. A **factor** is a number that divides exactly into another whole number, e.g., the factors of 12 are 1, 12, 2, 6, 3, 4 because they all divide exactly into 12.*
- *A **multiple** is the **result** of multiplying a number by an integer (not a fraction). 6 x 2 = 12, so 12 is a multiple of 6 and a multiple of 2.*
- ***Rounding off** means making a number simpler, but keeping its value close to what it was. You can round down or round up. Rounding to the nearest 10:- The numbers 81, 82, 83 and 84 will all round down to 80. The numbers 85, 86, 87, 88 and 89 will all round up to 90.*
- ***Quadrilaterals** are 2D shapes with four sides, e.g., square, rectangle, rhombus, parallelogram and trapezium.*
- ***Polygons** are 2D shapes with 3 or more straight sides. E.g., triangles 3 sides, quadrilaterals 4 sides, pentagons 5 sides, hexagons 6 sides, heptagons 7 sides, octagons 8 sides, nonagons 9 sides, decagons 10 sides, etc.*
- ***Regular polygons** have equal angles & sides of equal length.*
- ***Irregular polygons** have sides of different lengths.*
- *10 mm = 1 cm; 100 cm = 1 m; 1 000 m = 1 km.*
- *60 seconds = 1 minute; 60 minutes = 1 hour.*

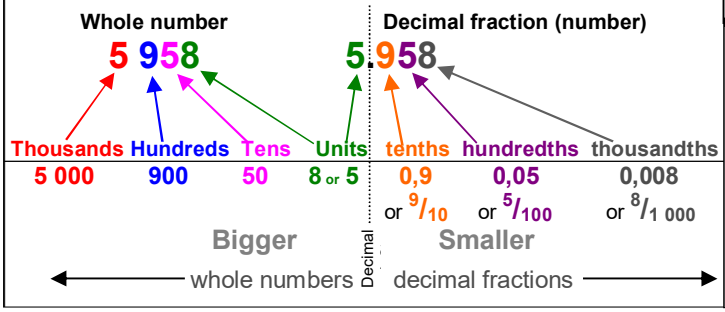
Number values

- *By splitting each number into clusters of 3, you are able to read the number easily. For example, **65432** can be easily read when written this way: **65 432**.*
- *Remember that each **digit** in a **number** is important and has its own **value (worth)**. See example below.*



*In the above number, the digit 1 is bigger than the digit 8. This is because the **digit 1** is actually **worth 100 000** and the **digit 8** is worth just **80**. You need to learn the place value of numbers so that you can put the digits in their correct places. Look at the chart below, which includes decimal fractions. When adding or subtracting with decimal numbers, always have the decimal points above one another.*

Scale of Place Values



1. Calculate:

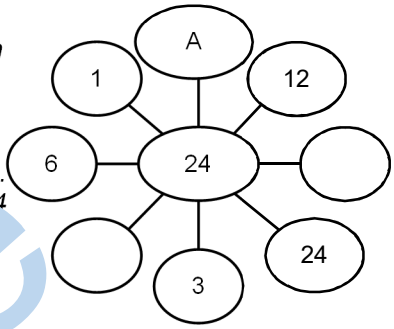
309 + 209 = …?...

(a) 100 (b) 5 018 (c) 5 418 (d) 518

2. What is the answer for 4 502 – 675?

(a) 2 173 (b) 3 827 (c) 1 173 (d) 3 837

The numbers in the outside circles, when multiplied with the numbers opposite them, give you the answer in the middle. Example: 1 x 24 = 24

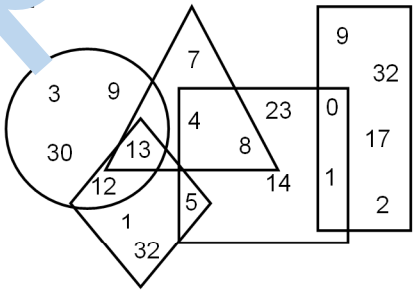


3. What is the correct value of 'A'?

(a) A = 12 (b) [illegible]

(c) A = [illegible] A = 72

4. Calculate the sum of the *odd* numbers in the triangle.



(a) 20 (b) 13 (c) 32 (d) 12

5. Which of the lists, (a) – (d), represents numbers arranged in ascending order?

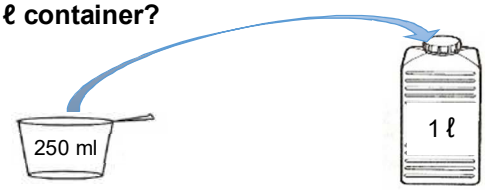
(a) 632; 623; 362; 663; 236

(b) 236; 263; 362; 623; 632

(c) 263; 236; 326; 632; 362

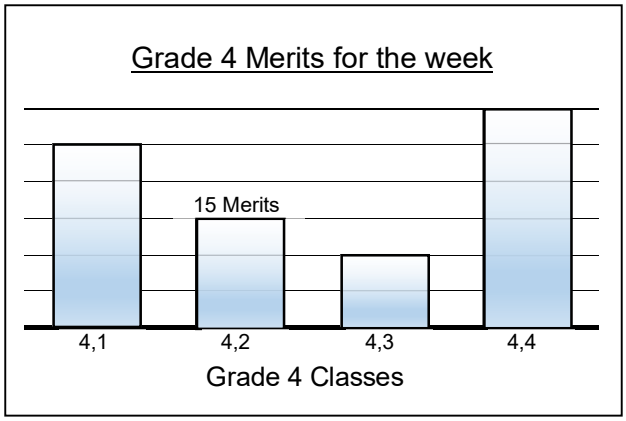
(d) 326; 236; 362; 632; 263

6. How many 250 ml cups will be used to fill the 1 ℓ container?



(a) 4 (b) 5 (c) 10 (d) 8

Study the bar graph below for questions 7 – 11.



7. Which class obtained the most merits for the week?

(a) 4,1 (b) 4,2 (c) 4,3 (d) 4,4

8. Which class obtained the *least* number of merits for the week?

(a) 4,1 (b) 4,2 (c) 4,3 (d) 4,4

9. Add up the total number of merits achieved by Class 4,1 and Class 4,4. It equals ……

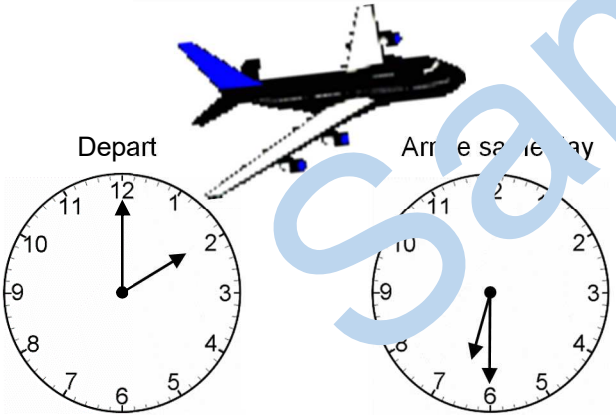
(a) 30 (b) 25 (c) 55 (d) 45

10. How many more merits did Class 4,4 get than Class 4,3?

(a) 5 (b) 20 (c) 10 (d) 15

11. What is the total number of merits the grade 4's achieved for the week?

(a) 95 (b) 16 (c) 60 (d) 80



(Hint:1 hour = 60 minutes, half an hour = 30 minutes)

12. How long was the flight?

(a) 120 minutes (b) 180 minutes

(c) 270 minutes (d) 240 minutes

35 *mm* = _____ *cm*

13. Convert the above measurement from millimetres into centimetres.

(a) 3 mm 5 mm (b) 3½ cm

(c) 3 cm 2 mm (d) 3 cm 1 mm

14. Count the ☺ in the diagram to form a number.

TH	H	T	U
	☺		
	☺		
	☺		
	☺		
	☺		☺
☺	☺		☺
☺	☺	☺	☺
☺	☺	☺	☺

(a) 3 924 (b) 3 824 (c) 3 842 (d) 3 942

4C2 is a 3-digit number.

0, 1, 2, 3, 4, 5, 6, 7, 8, 9

15. Which numbers can replace *'C'* to make the number even?

(a) Only 2, 4, 6 (b) Only 1, 3, 5, 7, 9

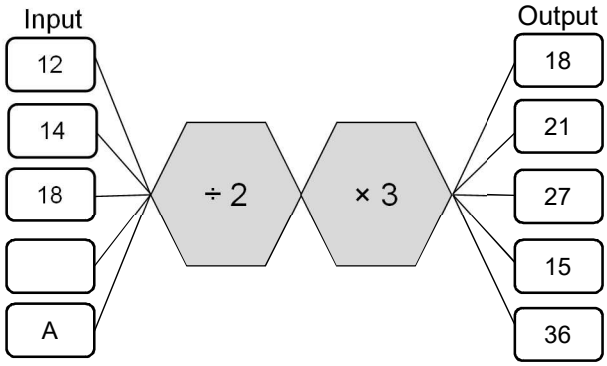
(c) Only the even digits (d) All the digits given

	5	3	5	9
−	2	3	7	?
	2	9	8	4

16. Be a detective and find the missing number that replaces the ? in the square.

(a) 1 (b) 2 (c) 3 (d) 5

Look at the diagram below.



17. What is the value at *'A'*?

(a) 12 (b) 24

(c) 26 (d) 36