Year 5 Term 1 Homework

Student Name: ________________	**Grade**: ________________
Date: ________________	**Score**: ________________

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1 Year 5 Term 1 Week 1 Homework

1.1 Topic 1 — Hindu-Arabic Numerals

Our number system which we use today (1, 2, 3, 4, 5, 6, 7, 8, 9, 10, etc.) are called **HINDU-ARABIC** numerals. Archaeologists and historians believe they were first developed about 2300 years ago (300 B.C. in India). This counting system was then taken by traders and scholars to Arabia. The Arabs invaded Spain in the eighth century, and the Hindu-Arabic system was widely used throughout Europe by 1100 A.D.

Exercise 1.1.1 Adding Whole Numbers

1. $7213 + 568 + 86072 + 3215 =$ ______________________

2. $12305 + 124 + 4365 + 9120 =$ ______________________

3. $1092 + 3988 + 910 + 256 =$ ______________________

Exercise 1.1.2 Subtracting Whole Numbers

1. $9681 - 2375 - 1230 =$ ______________________

2. $9008 - 2389 - 1325 =$ ______________________

3. $1005 - 239 - 156 =$ ______________________

Exercise 1.1.3 Multiplying Whole Numbers

1. $572 \times 125 =$ ______________________

2. $7804 \times 85 =$ ______________________

3. $1092 \times 205 =$ ______________________

Exercise 1.1.4 Dividing Whole Numbers

1. $989 \div 43 =$ ______________________

2. $1512 \div 56 =$ ______________________

3. $3634 \div 23 =$ ______________________

1.2 Topic 2 — Roman Numerals

Roman Numerals were very popular about 2000 years ago. The Roman number system is based on the idea of **addition** and **subtraction**.

- When a smaller numeral appears before a large one, it is **subtracted** from the large one:

  IV means 5 - 1 = 4

  XL means 50 - 10 = 40

- When a smaller numeral appears after the larger one, it is **added** to the large one.

  VI means 5 + 1 = 6

  LX means 50 + 10 = 60

- By repeating a numeral, its value is repeated.

  XX = 10 + 10 = 20

  XXX = 10 + 10 + 10 = 30

- By placing a bar over the numeral, its value is increased by 1000 times.

$$\begin{array}{ll|ll} \overline{V} & = 5000 & \overline{X} & = 10{,}000 \\ \overline{L} & = 50{,}000 & \overline{C} & = 100{,}000 \\ \overline{D} & = 500{,}000 & \overline{M} & = 1{,}000{,}000 \end{array}$$

The table below gives more details of the Roman numeral system:

I 1	II 2	III 3	IV 4	V 5	VI 6	VII 7	VIII 8	IX 9
X 10	XX 20	XXX 30	XL 40	L 50	LX 60	LXX 70	LXXX 80	XC 90
C 100	CC 200	CCC 300	CD 400	D 500	DC 600	DCC 700	DCCC 800	CM 900
M 1000								

Example 1.2.1 Write the following Roman numerals in our numerals

1. *DCXXIV = 624*
2. *CMXLV = 945*
3. *MCMXCV = 1995*
4. *CCXLIX = 249*
5. *MM = 2000*
6. *MCMLXXXII = 1982*

Exercise 1.2.1 Change the Roman numerals into Hindu-Arabic numerals:

1. *CCCL =* ______
2. *XXXV =* ______
3. *CXXX =* ______
4. *XXXVII =* ______
5. *MDL =* ______
6. *DCLIV =* ______
7. *CCCXL =* ______
8. *XCII =* ______
9. *MDLVI =* ______
10. *MCMLXV =* ______
11. *CDXCIX =* ______
12. *MMXLIV =* ______

Example 1.2.2 Change the following to Roman numerals

1. 30 = XXX
2. 58 = LVIII
3. 89 = LXXXIX
4. 349 = CCCXLIX
5. 1969 = MCMLXIX
6. 2044 = MMXLW

Exercise 1.2.2 Change the following Hindu-Arabic numerals into Roman numerals:

1. 36 = ______
2. 106 = ______
3. 137 = ______
4. 1234 = ______
5. 2004 = ______
6. 56000 = ______
7. 880 = ______
8. 1275 = ______
9. 962 = ______
10. 5520 = ______
11. 2025 = ______
12. 1607 = ______

1.3 Topic 3 — Place Value

Our number system today is based on the Hindu-Arabic system where the **value** of a number is determined by its **place** in a particular column. For example, what does 3,520,697 really mean? The place value of 2 is 20,000 or twenty thousand. The place value of 6 is 600 or six hundred.

There are four ways or notations of describing a whole number:

1. **AS AN ORDINARY NUMERAL**:
   3,520,697
2. **IN WORDS**:
   Three million, five hundred and twenty thousand, six hundred and ninety seven.
3. **IN EXPANDED NOTATION**:
   $(3 \times 1000000) + (5 \times 100000) + (2 \times 10000) + (0 \times 1000) + (6 \times 100) + (9 \times 10) + (7 \times 1)$
4. **IN EXPONENTIAL NOTATION**:
   $(3 \times 10^6) + (5 \times 10^5) + (2 \times 10^4) + (0 \times 10^3) + (6 \times 10^2) + (9 \times 10^1) + (7 \times 1)$

1. Write the following in expanded form:
   (a) 3245 = ____________________
   (b) 1085 = ____________________
   (c) 76189 = ____________________
   (d) 4365 = ____________________
   (e) 7694 = ____________________

2. Write the following in basic numeral form:
   (a) $3 \times 10^2 + 5 \times 10 + 6 \times 1 =$ ____________________
   (b) $4 \times 10^3 + 6 \times 10^2 + 7 \times 10 + 3 \times 1 =$ ____________________
   (c) $7 \times 10^5 + 3 \times 10^4 + 6 \times 10^2 + 9 \times 10 + 8 \times 1 =$ ____________________
   (d) $4 \times 10^4 + 2 \times 10^2 + 9 \times 1 =$ ____________________
   (e) $5 \times 10^3 + 8 \times 10^2 + 5 \times 1 =$ ____________________

1.4 Topic 4 — Rounding Off

In some situations in Maths, particularly when using a calculator, we do not require the exact answer, but an approximate answer only. The question will then ask you to **round off** the given number or answer to a certain place value. This place value might be to the nearest hundred or thousand etc.

Example 1.4.1 Round off 673 to the nearest hundred.

The number has 6 hundreds. Therefore it will round off to either 600 or 700. But 673 is closer to the 700 than it is to the 600. Therefore 673 rounds off to 700.

Example 1.4.2 Round 7499 to the nearest thousand.

The number has 7 thousands. Therefore it will round off to either 7000 or 8000. But 7499 is closer to the 7000 than it is to the 8000. Therefore 7499 rounds off to 7000. If the question had been 7500 then the digit 5 is always considered to be closer to the next highest number. Therefore 7500 rounds off to 8000.

Example 1.4.3 Round 438 251 to the nearest ten thousand.

The number has 43 lots of ten thousands. Therefore it will round off to either 430 000 or 440 000. But 438,251 is closer to the 440 000 than is to the 430 000. Therefore 438 251 rounds off to 440 000.

Exercise 1.4.1 Round off the following numbers to the nearest 100:

1. *749 =* ____________________
2. *751 =* ____________________
3. *750 =* ____________________
4. *1767 =* ____________________
5. *23086 =* ____________________

Exercise 1.4.2 Round off the following numbers to the nearest 1000:

1. *5731 =* ____________________
2. *23456 =* ____________________
3. *87509 =* ____________________
4. *120501 =* ____________________

1.5 Problem Solving (Numeration)

Exercise 1.5.1

1. *When a certain number is multiplied by 5 and 7 is added, the result is 32. What is the number?*

2. *When a certain number is added on to itself the result is 136. What is the number?*

3. *Kevin has twice as many two-dollar coins in his pocket as one-dollar coins. The total value of these coins is $25. How many coins of each kind does he have?*

4. *The sum of five consecutive numbers is 50. What is the smallest number?*

5. *When a certain number is divided by 7 and decreased by 7 the result is 7. What is the number?*

6. *The smaller of two numbers is 36. Their difference is 17. Find the larger number.*

7. *The smaller of two numbers is 18. Their sum is 43. What is the difference between the two numbers?*

8. *Add the sum of 74 and 47 to their difference. What is the answer?*

1.6 Test Paper 1

1.6.1 Part A — Quick Questions

1. How many fifths in 10 wholes? ______
2. Find the sum of 75 c and $0.35. ______
3. How many fours are there in 72? ______
4. How many hundreds in half a million? ______
5. Find the average of the first ten consecutive numbers. ______
6. How many years are there in 8 decades? ______
7. How many quarters are there in $3\frac{1}{4}$? ______
8. From 4 times 7, take away half of 14. ______
9. What is the remainder when 124 is divided by 6? ______
10. $\frac{1}{4}$ of 5 dozen eggs = ______
11. To the sum of 4 and 7, add their product. ______
12. How many days altogether in July, August and September? ______
13. How many minutes are there from 9.05 a.m. to 4.00 p.m.? ______
14. Change from $10 after spending $3.72? ______
15. Find $11^2 + 12^2 + 13^2 =$ ______
16. Find 35% of $1.60. ______
17. How many metres are there in 3.06 kilometres? ______
18. Halve 18 and square the result. ______
19. How many centimetres are there in a $\frac{1}{4}$ metre? ______
20. What is the value of 6 in 435623? ______

1.6.2 Part B — Average Questions

1. Find the sum of all the numbers from 1 to 200.

2. One fifth of my 175 marbles were lost. How many do I have now?

3. What do you get when you double the number that is 23 bigger then 74?

4. The next number in the sequence 1, 5, 13, 29 , . . . is :

5. When you add two numbers you get 15, and when you multiply them you get 54. What would you get if you subtracted the smaller of the two numbers from the larger one?

6. 12.34 is how many times bigger than 0.1234?

7. If one pizza is enough for 5 people, how many are needed for a party of 36 people?

8. If a discount of 24% is given on an item selling for \$125, what is actually paid for the item?

9. Which one is largest?

   A. 0.54 B. $\frac{1}{2}$ C. 55% D. $\frac{4}{7}$

1.6.3 Part C — Extension Questions

1. I am thinking of two numbers. When I add them the sum is 9, and when I multiply them the product is 20. My numbers are ______________________________

2. I think of a number, double it, add 8 to the result and my answer is 22.
   My number is ______________________________

3. Raymond and his sister, Jessica, collect stamps. Jessica has 12 more stamps than Raymond, and together they have 198 stamps. How many stamps does Raymond have?

   ____

   ____

4. What are the missing numbers in the following pattern? ______________________________

$$\begin{array}{cccccc} 2 & 5 & 7 & 9 & 4 & \boxed{B} \\ \downarrow & \downarrow & \downarrow & \downarrow & \downarrow & \downarrow \\ 3 & 9 & 13 & 17 & \boxed{A} & 11 \end{array}$$

5. In the following equations, the letters represent different digits. What is the value of each letter?

   (a) $S \times S = S + S$ S = ______________________________

   (b) $H + H + H + H = 24$ H = ______________________________

   (c) $M - M - M - M = 0$ M = ______________________________

   (d) $N \times N \times N \times N = 1$ N = ______________________________

   (e) $P \times P + 3 = 28$ P = ______________________________

   (f) $19 - Q + 2 \times 3 = 12$ Q = ______________________________

6. I have 3 piles of coins, and there are 19 coins altogether. The third pile has twice as many coins as the first, and one more coin than the second. How many coins are in each pile?

   ____

   ____

7. William walks 40 metres in 30 seconds. If he walks at the same speed, how far will he walk in one and a quarter hours?

   ____

   ____

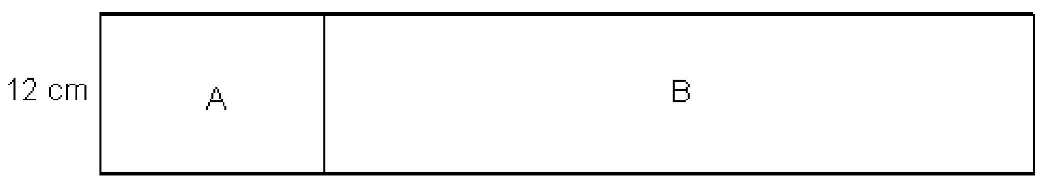
1.6.4 Part D — Challenging Problems

1. Suppose today is Saturday. What day of the week will it be 50 days from now?

2. Find the sum of the counting numbers from 1 to 50 inclusive.

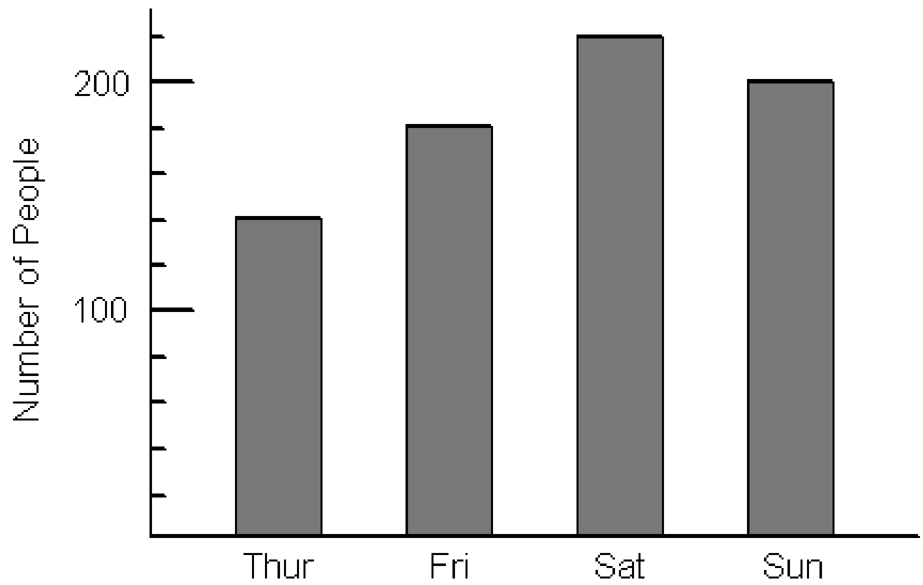
3. Kevin has 25 coins consisting of 10 c and 20 c coins. The total value of the coins is \$3.90. How many of each kind does he have?

4. The diagram below shows 2 rectangles A and B. Rectangle A is $\frac{1}{4}$ as long as rectangle B. If rectangle B has an area of 864 cm^2, what is the perimeter of the whole rectangle?



5. The four-digit number 1AA2 is divisible by 9. What digit does A represent?

6. The bar graph below shows the number of people watching a particular movie at a cinema from Thursday to Sunday. Use this information to answer the following questions:



(a) Find the percentage of people who watched the movie on Saturday. Give your answer correct to two decimal places.

(b) What fraction of the people were children if there were 120 adults?