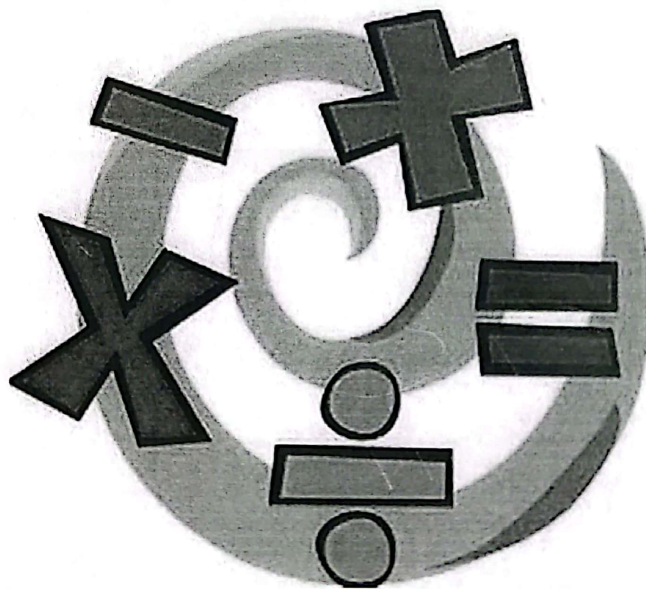


Confucian Tai Shing Primary School

2021-2022 1st Term



Mathematic Quality Assignment
(L.C.M. and H.C.F. 4N5☀)



Name: Winnie (6)

Class: 4 Joy

(A) Complete the following questions

Learning objective: Revising (溫習) the relationship of number of factors (因數) and number of multiples (倍數).

1. $9 \times 9 = \underline{81}$, $\underline{81} \div 9 = 9$

9 is a factor of 81, therefore 81 is the multiple of 9.

2. $2 \times 36 = \underline{72}$, $9 \times 8 = \underline{72}$, $\underline{72} \div 2 = 36$,

$\underline{72} \div 9 = 8$

2, 8, 9 and 36 are the (factors / multiples) of 36.

Therefore 72 is the (factor / multiple) of 2, 8, 9 and 36.

3. List the first 8 multiples of 3:

3, 6, 9, 12, 15, 18, 21, 24

List the first 8 multiples of 9:

9, 18, 27, 36, 45, 54, 63, 72

According to the pattern, the multiples of 9 (are / are not) also the multiples of 3.

All multiples of 3 (~~are~~ / are not) also the multiples of 9.

4. List all the factors of 4: 1, 2, 4

List all the factors of 8: 1, 2, 4, 8

According to the pattern, the factors of 8 (~~are~~ / are not) also the factors of 4.

All multiples of 4 (~~are~~ / are not) also the multiples of 8.

(B) Complete the following questions.

Key learning points: Use the listing method (列舉法) to find the Highest Common Factor (最大公因數).

5. Use the listing method to find the H.C.F. of 32 and 44.

List all the factors of 32 and 44

The factors of 32 are 1, 2, 4, 8, 16, 32.

The factors of 44 are 1, 2, 4, 11, 22, 44.

The common factors of 32 and 44 are 1, 2, 4.

The H.C.F. of 32 and 44 is 4.

6. Use the listing method to find the H.C.F. of 12 and 30.

The factors of 12 are 1, 2, 3, 4, 6, 12.

The factors of 30 are 1, 2, 3, 5, 6, 10, 15, 30.

The common factors of 12 and 30 are 1, 2, 3, 6.

The H.C.F. of 12 and 30 is 6.

7. Use the listing method to find the H.C.F. of 36 and 72.

The factors of 36 are 1, 2, 3, 4, 6, 9, 12, 18, 36.

The factors of 72 are 1, 2, 3, 4, 6, 8, 9, 12, 18, 24, 36, 72.

The common factors of 36 and 72 are 1, 2, 3, 4, 6, 12, 18, 36, 72.

The H.C.F. of 36 and 72 is 36.

(C) Complete the following questions.

Key learning points: Use short division (短除法) to find the H.C.F.

8. Use short division to find the H.C.F. of 24 and 60.

$$\begin{array}{r} 2 \times 2 \times 3 \\ \hline = 12 \end{array}$$

∴ The H.C.F. of 24 and 60 is 12.

Which number can be divided exactly by 24 and 60 at the same time?

2	24	60
2	12	30
3	6	15
	2	5

9. Use short division to find the H.C.F. of 36 and 90.

$$\begin{array}{r} 2 \times 3 \times 3 \\ \hline = 18 \end{array}$$

∴ The H.C.F. of 36 and 90 is 18.

Which number can be divided exactly by 36 and 90 at the same time?

2	36	90
3	18	45
3	6	15
	2	5

10. Use short division to find the H.C.F. of 16 and 68.

$$\begin{array}{r} 2 \times 2 \\ \hline = 4 \end{array}$$

∴ The H.C.F. of 16 and 68 is 4.

2	16	68
2	8	34
	4	17

(D) Complete the following questions.

Key learning points: Use the listing method to find the L.C.M.

How many multiples need to be listed to find the number?

11. Use the listing method to find the L.C.M. of 3 and 8.

The multiples of 3 are 3, 6, 9, 12, 15, 18, 21, 24

The multiples of 8 are 8, 16, 24, 32, 40, 48, 56, 64

The L.C.M. of 3 and 8 are 24.

12. Use the listing method to find the L.C.M. of 14 and 42.

Which one (14 or 42) will be listed first? How many multiples you need to list to find the number?

The multiples of 14 are 14, 28, 42, 56, 70, 84

The multiples of 42 are 42, 84, 126, 168, 210

The L.C.M. of 14 and 42 are 42.

13. Use the listing method to find the L.C.M. of 15 and 20.

The multiples of 15 are 15, 30, 45, 60, 75

The multiples of 20 are 20, 40, 60, 80, 100

The L.C.M. of 15 and 20 are 60.

(E) Complete the following questions.

Key learning points: Use short division to find the L.C.M.

14. Use short division to find the L.C.M. of 9 and 24.

$$\begin{array}{r} 3 \times 3 \times 8 \\ \hline = 72 \end{array}$$

∴ The L.C.M. of 9 and 24 is 72.

Which number can be divided exactly
by 9 and 24 at the same time?

3	9	24
	3	8

15. Use short division to find the L.C.M. of 56 and 64.

$$\begin{array}{r} 8 \times 7 \times 8 \\ \hline = 448 \end{array}$$

∴ The L.C.M. of 56 and 64 is 448.

Which number can be divided exactly
by 56 and 64 at the same time?

8	56	64
	7	8

16. Use short division to find the L.C.M. of 24 and 74.

$$\begin{array}{r} 2 \times 12 \times 37 \\ \hline = 888 \end{array}$$

∴ The L.C.M. of 24 and 74 is 888.

2	24	74
	12	37

(F) Value-added Learning Area (延伸學習)

Find H.C.F. by using short division method. The divisor (除數) must be divided exactly (整除) by all three dividends (被除數).

17. Use short division to find the L.C.M. of 12, 24 and 48.

$$\frac{4 \times 3 \times 1 \times 2 \times 4}{= 96}$$

∴ The L.C.M. of 12, 24 and 48 is 96.

4	12	24	48
3	3	6	12
	1	2	4

18. Use short division to find the H.C.F. of 18, 54 and 72.

$$\frac{2 \times 9}{= 18}$$

∴ The H.C.F. of 18, 54 and 72 is 18.

2	18	54	72
9	9	27	36
	1	3	4

Which number can be divided exactly by 18, 54 and 72 at the same time?

19. Find the H.C.F. of 42, 84 and 105.

$$\frac{3 \times 7}{= 21}$$

∴ The H.C.F. of 42, 84 and 105 is 21.

3	42	84	105
7	14	28	35
	2	4	5

Which number can be divided exactly by 42, 84 and 105 at the same time?

(G) Challenging question

20. Set a question to find the H.C.F. of 3 numbers. The H.C.F. must be two digital numbers (兩位數). And then solve it by using short division method.

The H.C.F. of 16, 80 and 160 is ✓

$$\begin{array}{r} 16 \\ \hline = 16 \end{array}$$

∴ The H.C.F. of 16, 80 and 160 is 16. ✓

$$\begin{array}{r} 16 \overline{) 16 \quad 80 \quad 160} \\ \underline{1 \quad 5 \quad 10} \end{array}$$

Marks: 18 / 20
20/11

Summary:

1. We can use listing method and short division method to find the L.C.M. of two numbers.
2. When using short division method to find the H.C.F. of any two numbers and choosing common factors as divisors you can make different choices or put it in different order.
3. One is the factor of any number. Therefore any two numbers should have at least one common factor, which is one.
4. When using short division method to find the L.C.M. of any two numbers and choosing prime number as divisors, you can make different factor or put it in different order. common factors (common factors) choice (choices)

Assessments:

Self-assessment:

After studying this chapter,

- I can use listing method to find the H.C.F. of two numbers.
- I can use short division method to find the H.C.F. of two numbers.
- I can use listing method to find the L.C.M. of two numbers.
- I can use short division method to find the L.C.M. of two numbers.
- I calculate carefully.(Work)
- I learned with effort.(Attitude)
- I check the steps carefully.(Ability)

I have learned that using short division method is faster than the listing method

Peer assessment: you check the steps carefully.

Parents' Feedback:

- | | |
|---|---|
| <input checked="" type="checkbox"/> Able to work independently
(能獨立完成課業) | <input type="checkbox"/> Finish assignments only with
guidance (須指導才能完成課業) |
| <input checked="" type="checkbox"/> Neat writings (字體端正) | <input type="checkbox"/> Sloppy writings (字體草率) |
| <input checked="" type="checkbox"/> Tidy assignment (課業整潔) | <input type="checkbox"/> Pay attention to tidiness
(要注意整潔) |
| <input checked="" type="checkbox"/> Complete assignment seriously
(認真完成課業) | <input type="checkbox"/> More effort required (仍須努力) |

Other comments (其他意見): Need to do more exercises in order
be more clear in mind.

Teacher's Feedback:

- | | |
|--|--|
| <input checked="" type="checkbox"/> Able to master the learning objectives of the unit | <input type="checkbox"/> Unable to master some learning objectives of the unit |
| <input checked="" type="checkbox"/> Neat writings | <input type="checkbox"/> Sloppy writings |
| <input checked="" type="checkbox"/> Tidy assignment | <input type="checkbox"/> Pay attention to tidiness |
| <input checked="" type="checkbox"/> Completed assignment according to instructions | <input type="checkbox"/> Be more careful in reading questions |
-

- | | |
|---|---|
| <input checked="" type="checkbox"/> Excellent | <input type="checkbox"/> Good |
| <input type="checkbox"/> Satisfactory | <input type="checkbox"/> Improvement needed |

Other comments: You understand the relation between common multiples and the Least Common Multiple

The End