

TEACHER'S NAME:

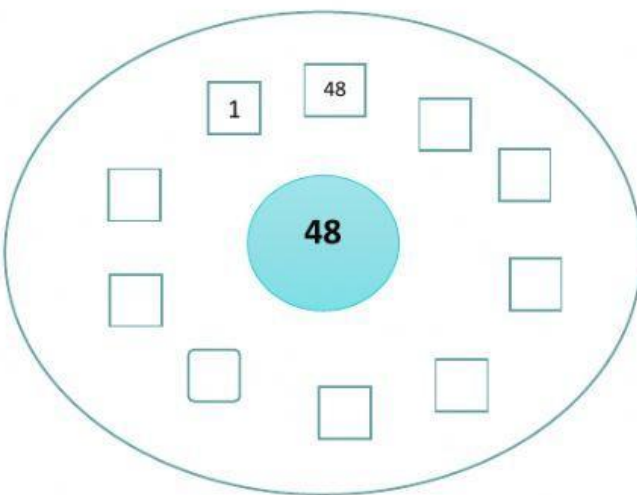
NAME:

CLASS:

## 2.1 FACTORS, PRIME FACTORS AND HIGHEST COMMON FACTOR (HCF)

**Notes:** Factor in a whole number that can divide that number exactly

**A Solve.**

|    |                                                                                                                                                                                                   |        |   |   |   |              |   |   |   |   |    |
|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|---|---|---|--------------|---|---|---|---|----|
| a) | 3 is a factor of 15. (Choose 1 answer)                                                                                                                                                            |        |   |   |   |              |   |   |   |   |    |
|    | <b>TRUE</b>                                                                                                                                                                                       |        |   |   |   | <b>FALSE</b> |   |   |   |   |    |
| b) | 9 is a factor of 120. (Choose 1 answer)                                                                                                                                                           |        |   |   |   |              |   |   |   |   |    |
|    | <b>TRUE</b>                                                                                                                                                                                       |        |   |   |   | <b>FALSE</b> |   |   |   |   |    |
| c) | ) (Choose the appropriate answer)                                                                                                                                                                 |        |   |   |   |              |   |   |   |   |    |
|    | Number                                                                                                                                                                                            | Factor |   |   |   |              |   |   |   |   |    |
|    | 45                                                                                                                                                                                                | 1      | 2 | 3 | 4 | 5            | 6 | 7 | 8 | 9 | 10 |
|    | 128                                                                                                                                                                                               | 1      | 2 | 3 | 4 | 5            | 6 | 7 | 8 | 9 | 10 |
| d) | <p>Complete the circle map below for the factor of 48.<br/>(Follow the sequence of numbers in a circle.)</p>  |        |   |   |   |              |   |   |   |   |    |

**Notes:** A **prime factor** is a factor that is also a prime number.

## B Solve

| a   | <p>Identify the prime factors</p>                                                                                                                                                                                                                                                                                                                                                                                                                      |                |        |                |        |   |           |           |  |    |               |               |  |     |                |           |  |
|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|--------|----------------|--------|---|-----------|-----------|--|----|---------------|---------------|--|-----|----------------|-----------|--|
| b   | <p>Identify the prime factors</p>                                                                                                                                                                                                                                                                                                                                                                                                                      |                |        |                |        |   |           |           |  |    |               |               |  |     |                |           |  |
| c   | <p>Identify the prime factors</p>                                                                                                                                                                                                                                                                                                                                                                                                                      |                |        |                |        |   |           |           |  |    |               |               |  |     |                |           |  |
| d   | <p>Tick / on the correct statement and X for the incorrect statement.</p> <table border="1"> <thead> <tr> <th></th> <th>Number</th> <th>Common factors</th> <th>/ or X</th> </tr> </thead> <tbody> <tr> <td>i</td> <td>12 and 20</td> <td>1 , 2 , 4</td> <td></td> </tr> <tr> <td>ii</td> <td>6 , 24 and 30</td> <td>1 , 2 , 3 , 6</td> <td></td> </tr> <tr> <td>iii</td> <td>12 , 18 and 32</td> <td>1 , 2 , 3</td> <td></td> </tr> </tbody> </table> |                | Number | Common factors | / or X | i | 12 and 20 | 1 , 2 , 4 |  | ii | 6 , 24 and 30 | 1 , 2 , 3 , 6 |  | iii | 12 , 18 and 32 | 1 , 2 , 3 |  |
|     | Number                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Common factors | / or X |                |        |   |           |           |  |    |               |               |  |     |                |           |  |
| i   | 12 and 20                                                                                                                                                                                                                                                                                                                                                                                                                                              | 1 , 2 , 4      |        |                |        |   |           |           |  |    |               |               |  |     |                |           |  |
| ii  | 6 , 24 and 30                                                                                                                                                                                                                                                                                                                                                                                                                                          | 1 , 2 , 3 , 6  |        |                |        |   |           |           |  |    |               |               |  |     |                |           |  |
| iii | 12 , 18 and 32                                                                                                                                                                                                                                                                                                                                                                                                                                         | 1 , 2 , 3      |        |                |        |   |           |           |  |    |               |               |  |     |                |           |  |

## C Find the highest common factor (FSTB) for each of the following

**b) 56 and 84**

|         |
|---------|
| 56 , 84 |
| 28 , 42 |
| 14 , 21 |
| 2 , 3   |

FSTB = \_\_\_\_ X \_\_\_\_ X \_\_\_\_  
= \_\_\_\_\_

**a) 12 and 30**

|         |
|---------|
| 12 , 30 |
| 2 , 5   |

FSTB = \_\_\_\_ X \_\_\_\_  
= \_\_\_\_\_

d) 30, 90 and 315

$$\begin{array}{r} \text{O} \mid 30, 90, 315 \\ \text{O} \mid 6, 18, 63 \\ \hline 2, 6, 21 \end{array}$$

FSTB = \_\_\_\_ X \_\_\_\_  
= \_\_\_\_

c) 30, 90 and 315

$$\begin{array}{r} \text{O} \mid 36, 84, 132 \\ \text{O} \mid 2 \mid 6, 42, 66 \\ \text{O} \mid 9, 33 \\ \hline 3, 7, 11 \end{array}$$

FSTB = \_\_\_\_ X \_\_\_\_ X \_\_\_\_  
= \_\_\_\_

D Solve. (Choose 1 answer)

- a) The Mathematics Club in a school has a membership of 90 male students and 108 female students. During one training session, Ms. Wan wanted to divide all the team members into several equal groups according to their respective genders.

i) What is the maximum number of members that can be arranged for each group?

16

18

20

22

ii) State the number of groups that can be arranged.

6

8

10

12

- b) Mansor wants to make some bags of snacks for her friends. He has 16 cans of drinks and 24 packs of crackers to be packed with the same number of cans of drinks and crackers in each bag.

State the number of Mansor's friends who will get one bag of snacks each.

2

4

6

8

## 2.2 MULTIPLES, COMMON MULTIPLES AND LOWEST COMMON MULTIPLES

### Notes:

- The **multiple** of a number is the **product** of the number multiplied by a number not 0

### E Solve

|   |                                                                                                                               |
|---|-------------------------------------------------------------------------------------------------------------------------------|
| a | Write all multiples of 2 between 1 and 10.<br><div><div></div><div></div><div></div><div></div><div></div></div>              |
| b | Write all multiples of 12 between 70 and 121.<br><div><div></div><div></div><div></div><div></div><div></div></div>           |
| c | Write all multiples of 9 that are less than 50.<br><div><div></div><div></div><div></div><div></div><div></div></div>         |
| d | Write all multiples of 8 between 50 and 100.<br><div><div></div><div></div><div></div><div></div><div></div><div></div></div> |

E Find the smallest common multiple (GSTK) by listing the common multiples of the numbers below..

- (Write answers using commas and without spaces up to the first number of GSTK only)

Examples: 1,2,3

|   |                                                                                                                                                                                                          |
|---|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| a | 3, 4 and 8.<br><div><div>Multiples of 3</div><div></div></div> <div><div>Multiples of 4</div><div></div></div> <div><div>Multiples of 8</div><div></div></div><br>GSTK for numbers 3, 4 and 8 is = _____ |
|---|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|



|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| b | <p>5, 10 and 15</p> <div style="margin-bottom: 10px;"> <div style="background-color: #90EE90; padding: 5px; display: inline-block;">Multiples of 5</div> <div style="color: #00B0F0; font-size: 24px; margin: 0 10px;">➔</div> <div style="border-bottom: 1px solid black; width: 350px;"></div> </div> <div style="margin-bottom: 10px;"> <div style="background-color: #90EE90; padding: 5px; display: inline-block;">Multiples of</div> <div style="color: #00B0F0; font-size: 24px; margin: 0 10px;">➔</div> <div style="border-bottom: 1px solid black; width: 350px;"></div> </div> <div style="margin-bottom: 10px;"> <div style="background-color: #90EE90; padding: 5px; display: inline-block;">Multiples of</div> <div style="color: #00B0F0; font-size: 24px; margin: 0 10px;">➔</div> <div style="border-bottom: 1px solid black; width: 350px;"></div> </div> <p>GSTK for numbers 5, 10 and 15 is = _____</p>  |
| c | <p>5, 8 and 10.</p> <div style="margin-bottom: 10px;"> <div style="background-color: #FFB6C1; padding: 5px; display: inline-block;">Multiples of 5</div> <div style="color: #00B0F0; font-size: 24px; margin: 0 10px;">➔</div> <div style="border-bottom: 1px solid black; width: 350px;"></div> </div> <div style="margin-bottom: 10px;"> <div style="background-color: #FFB6C1; padding: 5px; display: inline-block;">Multiples of 8</div> <div style="color: #00B0F0; font-size: 24px; margin: 0 10px;">➔</div> <div style="border-bottom: 1px solid black; width: 350px;"></div> </div> <div style="margin-bottom: 10px;"> <div style="background-color: #FFB6C1; padding: 5px; display: inline-block;">Multiples of</div> <div style="color: #00B0F0; font-size: 24px; margin: 0 10px;">➔</div> <div style="border-bottom: 1px solid black; width: 350px;"></div> </div> <p>GSTK for numbers 5, 8 and 10 is = _____</p> |

F Find the least common multiple (GSTK) by the repeated division method.

**a) 56 and 84**

|  |        |
|--|--------|
|  | 56, 84 |
|  | 14, 21 |
|  | 2, 3   |
|  | 1, 3   |
|  | 1, 1   |

GSTK is \_\_\_\_\_

**b) 15, 30 and 34**

|  |            |
|--|------------|
|  | 15, 30, 34 |
|  | 5, 10, 34  |
|  | 1, 2, 34   |
|  | 1, 1, 17   |
|  | 1, 1, 1    |

GSTK is \_\_\_\_\_

G Determine whether 4 is a factor of the following number. Choose the correct answer.

a) i)

96



YES

NO

ii)

314



YES

NO

b) Match the following pair of numbers with the correct highest common factor.

12 and 74

2

4

48 and 56

8

c) Choose a factor of 39.

2

15

3

21

13

39

d) Mark / on the number which is a multiple of 4 and X if not.

46



56



88



e) Fill in the blanks with the correct answer.

|   |    |   |                      |   |                      |
|---|----|---|----------------------|---|----------------------|
| 4 | 16 | , | 20                   | , | <input type="text"/> |
| 4 | 4  | , | <input type="text"/> | , | 10                   |
| 5 | 1  | , | 5                    | , | 10                   |
| 2 | 1  | , | 1                    | , | <input type="text"/> |
|   | 1  | , | 1                    | , | 1                    |

$GSTK = 4 \times 4 \times 5 \times 2 =$