**TERM 2: MULTIPLICATION**

**Exercise 1**

1. Use the breaking up method to calculate the following.

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| **Breaking up numbers**  Example:  125 × 31 = 125 × (30 + 1)  = (128 × 30) + (125 × 1)  = 3 750 + 125  = 3 875 |

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| a. 214 × 22 = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | b. 321 × 15 = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

2. Calculate by rounding off and compensating.

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| **Rounding off and compensating**  Example:  128 × 45 = 128 × (50 – 5) because 45 = 50 – 5  = (128 × 50) – (128 × 5)  = 6 400 – 640  = 5 760 |

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| a. 202 × 26 = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | b. 182 × 37 = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

3. Multiply the following using the doubling and halving method.

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| **Doubling and halving**  Example:  140 × 48 = 280 × 24 (Double 140 is 280 and half of 48 is 24)  = 280 × 24 (Double 280 is 560 and half of 24 is 12)  = 560 × 12 (Double 560 is 1 120 and a half of 12 is 6)  = 1 120 × 6 (Double 1 120 is 2 240 and half of 6 is 3)  = 2 240 × 3  = (2 000 + 200 + 40) × 3  = (2 000 × 3) + (200 × 3) + (40 × 3)  = 6 000 + 600 + 120 = 6 720 |

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| a. 150 × 32 = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | b. 210 × 48 = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

4. Use the column method to calculate.

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| **Multiplying in columns**  Example: 234 × 25 = 234  × 25  1 170 (234 × 5)  + 4 680 (234 × 20)  5 850 |

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| a. 345 × 26 = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | b. 692 × 45 = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

**Exercise 2 [Multiples]**

1. Write the first six multiples of these numbers [**count in these numbers**].

For example: The first six multiples of 10 are; 10, 20, 30, 40, 50, 60.

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| a. 12 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | b. 14 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

2. Write down the multiples of 16.

a. That are greater than 32 but less than 112

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

b. Between 48 and 160

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

c. In descending order from 128 to 0

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

d. In ascending order from 16 to 96

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. Copy and complete these multiple tables.

a.

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| --- | --- | --- | --- | --- | --- |
| 18 | 36 |  | 72 |  |  |

b.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 24 | 48 |  |  | 120 |  |

**Exercise 3**

**Factors – Numbers that divides exactly into another number without leaving a remainder.**

1. Write down the factor pairs for these numbers.

For example: The factor pairs of 20 are; [1 and 20], [2 and 10] and [4 and 5].

a. 25 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

b. 60 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. List the factors of the following numbers.

For example: The factors of 20 are; [1, 2, 4, 5, 10, 20]

a. 36 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

b. 96 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. Use the factor method to solve the following.

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| **Breaking down numbers into factors to multiply**  Example:  112 × 12 = 112 × 2 × 6 (breaking down 12 into its factors)  = (112 × 2) × 2 × 3 (breaking down 6 into its factors)  = (224 × 2) × 3  = 448 × 3  = (400 × 3) + (40 × 3) + (8 × 3)  = 1 200 + 120 + 24  = 1 344 |

|  |  |
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| a. 115 × 14 = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | b. 212 × 30 = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

**Exercise 4**

Solve these word problems.

a. Mr Harris bought 145 m of wire to fence his vegetable garden. Mr Henry bought 12 time as much wire. How many metres of wire did Mr Henry buy?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

b. Mrs Zondo has 125 m of material. Mrs Zama has four times as much material. How much material does Mrs Zama have?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

c. One bottle of cooldrink is 350 *ml*. How many *ml* is 15 bottles of cooldrink?

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d. Brian has 95 marbles. Jason has twice as many marbles as Brian. Peter has three times as many marbles as Jason.

i) How many marbles does Jason have?

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ii) How many marbles does Peter have?

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**REFERENCE**

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