

**MATHEMATICS**

**GRADE 7 ASSIGNMENT**

**TERM 1**

**MARKS: 100**

**LEARNER: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**DECLARATION BY LEARNER:**

**I HEREBY CONFIRM THAT ALL INFORMATION CONTAINED IN THIS DOCUMENT, IS MY ORIGINAL WORK.**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**SIGNED DATE**

**EXAMINER: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**MODERATOR: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Assignment:**  **Whole Numbers and Exponents**

**Question 1:**

1.1 Is the set of odd numbers included in the set of whole numbers? (2)

1.2 Round the following off to the nearest five:

1.2.1 23 (2)

1.2.2 38 (2)

1.3 Rewrite and complete the following by filling in either **>**; **<** or =:

1.3.1 630 + 0 \_\_\_\_\_\_\_\_\_\_ 630 (2)

1.3.2 421 + 0 \_\_\_\_\_\_\_\_\_\_ 4210 (2)

1.3.3 21 × 0 \_\_\_\_\_\_\_\_\_ 21 (2)

1.4 State whether the following are True or False:

1.4.1 3( 5 + 8 ) = 3 × 5 + 3 × 8 (2)

1.4.2 930 + 1 × 0 = 930 (2)

1.4.3 7( 4 - 9 ) = 7( 9 - 4 ) (2)

1.4.4 943 010 × 0 + 1 = 943 011 (2)

**[20]**

**Question 2:**

2.1 Mobi drives the delivery truck that delivers bricks to customers. At Customer A, he delivers 10 000 bricks. At Customer B he delivers 15 000 bricks. How many bricks will he be delivering to Customer C, if he started with a load of 30 000 bricks?

(4)

2.2 The company which Mobi works for, has many trucks. The monthly amount of fuel used for all their trucks is as follows:

January = 21 022ℓ

February = 18 473ℓ

March = 22 002ℓ

2.2.1 What was the total amount of fuel used for the three months? (3)

2.2.2 If fuel costs R12.30/ℓ, what did the company spend on fuel during this period? (3)

2.2.3 In your opinion, why did the company use the least amount of fuel in February? (2)

2.3 An aeroplane flies at a constant height of 15 000m above sea level. The pilot flies over a mountain range which, at its peak, is 1 999m above sea level. What was the distance between the aeroplane and the mountain peak?

(2)

2.4 Tina downloads music from the internet onto CD’s. If the CD’s have a 72 000 kilobyte capacity and each song has an average size of 4 000 kilobytes, then:

2.4.1 How many songs can she download onto one CD? (3)

2.4.2 If Tina has 57 downloaded CD’s, then how many songs does she have? (3)

**[20]**

**Question 3:**

3.1 Which of the following are prime numbers?

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 29 | ; | 1 | ; | 33 | ; | 47 |

(3)

3.2 Give the factors of:

3.2.1 48 (4)

3.2.2 Which of these factors are prime factors? (2)

3.3 Show your calculation to determine the HCF of 172 and 258. (4)

3.4 Show your calculation to determine the LCM of 8, 16 and 5. (4)

**[17]**

**Question 4:**

4.1 Write as a ratio in its simplest form. (2)

4.2 The number of guests invited to a wedding, was 124 people. If 60 of these guests were male, then give the simplified ratio of males: females at the wedding.

(3)

4.3 Rodney and his sister Rebecca decide to buy a case of 24 cool drinks. The normal price of one can of cool drink is R8.50. The cost of the case of cool drinks is R156.00, then

4.3.1 Calculate the cost of one can if they buy the case of cool drinks. (2)

4.3.2 If Rodney and his sister contribute to the cost of R156.00 in the ratio of 8 : 5 respectively, then how much did Rebecca pay? (3)

4.3.3 How many cool drinks did Rodney get? (3)

4.3.4 Calculate the % discount on the case of cool drinks. (4)

4.4 If petrol costs R12.30/ℓ, how many litres can you buy with R500.00? (3)

4.5 Shereen borrows R7 000.00 from her uncle at a simple interest rate of 12% per year.

4.5.1 How much will she owe her uncle after 2 years? (3)

4.5.2 If she repays this loan monthly, how much would she need to pay per month?

(2)

**[25]**

**Question 5:**

5.1 Rewrite the following in exponential form:

5.1.1 27 × 27 × 27 (2)

5.1.2 16 (2)

5.1.3 29 (2)

5.2 Write the following in expanded notation:

5.2.1 (1)

5.2.2 (1)

5.3 Calculate the following:

5.3.1 + (2)

5.3.2 + (3)

5.3.3 ÷ (2)

5.3.4 × (3)

**[18]**

**Total: 100 marks**



**MATHEMATICS**

**GRADE 7 ASSIGNMENT**

**TERM 1**

**MEMORANDUM**

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Solution** | **Explanation** | **Marks** |
| 1.1 | Yes | Answer = 2 | (2) |
| 1.2.1 | 25 | Answer = 2 | (2) |
| 1.2.2 | 40 | Answer = 2 | (2) |
| 1.3.1 | 630 + 0 = 630 | Answer = 2 | (2) |
| 1.3.2 | 421 + 0 < 4210 | Answer = 2 | (2) |
| 1.3.3 | 21 × 0 < 21 | Answer = 2 | (2) |
| 1.4.1 | True | 2 marks each = 8 | (8) |
| 1.4.2 | True |
| 1.4.3 | False |
| 1.4.4 | False |
| 2.1 | |  |  | | --- | --- | |  | 30 000 - 15 000 – 10 000 | | = | 5 000 bricks | | Subst. = 3  Answer = 1 | (4) |
| 2.2.1 | |  |  |  | | --- | --- | --- | | Total | = | 21 022 + 18 473 + 22 002 | |  | = | 61 497 litres | | Subst. = 2  Answer = 1 | (3) |
| 2.2.2 | |  |  |  | | --- | --- | --- | | Cost | = | 61 497 × 12.3 | |  | = | R756 413.00 | | Subst. = 2  Answer = 1 | (3) |
| 2.2.3 | |  |  |  | | --- | --- | --- | | Jan and March | = | 31 days | | February | = | 28 days |   ∴ Less days | Any reasonable answer = 2 | (2) |
| 2.3 | |  |  |  | | --- | --- | --- | | Distance | = | 15 000 - 1 999 | |  | = | 13 001m | | Method = 1  Answer = 1 | (2) |
| 2.4.1 | |  |  |  | | --- | --- | --- | | Number | = |  | |  | = | 18 songs | | Method = 2  Answer = 1 | (3) |
| 2.4.2 | |  |  |  | | --- | --- | --- | | Number | = | 57 × 18 | |  | = | 1 026 songs | | Method = 2  Answer = 1 | (3) |
| 3.1 | |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | Prime | = | 29 | ; | 33 | ; | 47 | | 1 mark each = 3 | (3) |
| 3.2.1 | Factors:   |  |  |  |  |  | | --- | --- | --- | --- | --- | | 1; | 2; | 3; | 4; | 6; | | 8; | 12; | 24; | 48 |  | | All Corr. = 4  1 wrong = 2  2 or more wrong = 0 | (4) |
| 3.2.2 | 2 and 3 | Answer = 2 | (2) |
| 3.3 | HCF = 43 | Calculations = 3  Answer = 1 | (4) |
| 3.4 | LCM = 80 | Calculations = 3  Answer = 1 | (4) |

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Solution** | **Explanation** | **Marks** |
| 4.1 | |  |  |  |  |  | | --- | --- | --- | --- | --- | | Ratio | = | 12 | : | 108 | |  | = | 1 | : | 9 | | Method = 1  Answer = 1 | (2) |
| 4.2 | |  |  |  |  | | --- | --- | --- | --- | |  | Females | = | 124 - 60 | |  |  | = | 64 | | ∴ | Ratio | = | 60 : 64 | |  |  | = | 15 : 16 | | Females = 1  Method = 1  Simplify = 1 | (3) |
| 4.3.1 | |  |  |  | | --- | --- | --- | | 1 can | = |  | |  | = | R6.50 | | Method = 1  Answer = 1 | (2) |
| 4.3.2 | |  |  |  |  | | --- | --- | --- | --- | |  | 8 : 5 | = | 13 | | ∴ | Rebecca | = | × 156 | |  |  | = | R60.00 | | Add = 1  Method = 1  Answer = 1 | (3) |
| 4.3.3 | |  |  |  |  | | --- | --- | --- | --- | | ∴ | Rodney | = | × 24 | |  |  | = | 9 cooldrinks |   (Accept 10) | Method = 2  Answer = 1 | (3) |
| 4.3.4 | |  |  |  | | --- | --- | --- | | % Discount | = | × 100 | |  | = | -23,53 |   OR 23,53% discount | Subst. = 2  × 100 = 1  Answer = 1 | (4) |
| 4.4 | |  |  |  |  | | --- | --- | --- | --- | |  | R12.30 | = | 1ℓ | | ∴ | R500.00 | = |  | |  |  | = | 40,65ℓ | | Method = 2  Answer = 1 | (3) |
| 4.5.1 | |  |  |  | | --- | --- | --- | | Amount | = | 7000 × 0,12 × 2 | |  | = | R1 680.00 | |  | = | R8 680.00 | | Method = 1  Answer = 1  Answer = 1 | (3) |
| 4.5.2 | |  |  |  | | --- | --- | --- | | Monthly | = |  | |  | = | R361,67pm | | ÷ 24 = 1  Answer = 1 | (2) |
| 5.1.1 |  | 2 marks each = 6 | (6) |
| 5.1.2 |  |
| 5.1.3 | + |
| 5.2.1 | 2 × 2 × 2 × 2 × 2 | Answer = 1 | (1) |
| 5.2.2 | = 437 | Answer = 1 | (1) |

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Solution** | **Explanation** | **Marks** |
| 5.3.1 | |  |  | | --- | --- | |  | + | | = | 8 + 9 | | = | 17 | | Method = 1  Answer = 1 | (2) |
| 5.3.2 | |  |  | | --- | --- | |  | + | |  | 4 + 7 | | = | 11 | | 4 = 1  7 = 1  Answer = 1 | (3) |
| 5.3.3 | |  |  | | --- | --- | |  | ÷ | | = |  | | = | OR 25 | | Method = 1  Answer = 1 | (2) |
| 5.3.4 | |  |  | | --- | --- | |  | × | | = |  | | = |  |   OR = 24 389 | Method = 2  Answer = 1 | (3) |
|  |  | **Total: 100 marks** | |

**Cognitive Level Summary:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Question** | **Knowledge** | **Routine Procedures** | **Complex Procedures** | **Problem Solving** |
| **1.1** | 2 |  |  |  |
| **1.2.1** | 2 |  |  |  |
| **1.2.2** | 2 |  |  |  |
| **1.3.1** |  | 2 |  |  |
| **1.3.2** |  | 2 |  |  |
| **1.3.3** |  | 2 |  |  |
| **1.4.1** |  | 2 |  |  |
| **1.4.2** |  | 2 |  |  |
| **1.4.3** |  | 2 |  |  |
| **1.4.4** |  | 2 |  |  |
| **2.1** |  | 4 |  |  |
| **2.2.1** |  | 3 |  |  |
| **2.2.2** |  |  | 3 |  |
| **2.2.3** |  |  |  | 2 |
| **2.3** |  |  | 2 |  |
| **2.4.1** |  |  | 3 |  |
| **2.4.2** |  |  | 3 |  |
| **3.1** | 3 |  |  |  |
| **3.2.1** | 4 |  |  |  |
| **3.2.2** | 2 |  |  |  |
| **3.3** |  | 4 |  |  |
| **3.4** |  | 4 |  |  |
| **4.1** | 2 |  |  |  |
| **4.2** |  | 3 |  |  |
| **4.3.1** |  | 2 |  |  |
| **4.3.2** |  |  | 3 |  |
| **4.3.3** |  |  | 3 |  |
| **4.3.4** |  |  |  | 4 |
| **4.4** |  |  | 3 |  |
| **4.5.1** |  |  |  | 3 |
| **4.5.2** |  |  |  | 2 |
| **5.1.1** | 2 |  |  |  |
| **5.1.2** |  | 2 |  |  |
| **5.1.3** |  |  |  | 2 |
| **5.2.1** | 1 |  |  |  |
| **5.2.2** | 1 |  |  |  |
| **5.3.1** | 2 |  |  |  |
| **5.3.2** |  | 3 |  |  |
| **5.3.3** |  | 2 |  |  |
| **5.3.4** |  | 3 |  |  |
| **Total** | **23** | **44** | **20** | **13** |
| **%** | **23%** | **44%** | **20%** | **13%** |