**Name:……………………………………………………….Class:…………..Adm No:……….**

**END TERM 2 EXAM - 2021**

**FORM 1**

**MATHEMATICS.**

**TIME:**

**Instructions.**

**Answer all questions in the spaces provided.**

1. Express the following numbers in words. (2mks)
2. 14633001

***Fourteen million six hundred and thirty three thousand and one.***

1. 30000010

***Thirty million and ten.***

1. A matatu charges sh. 120 as fare from town A to town B. It has a capacity of 18 passangers. How much money does it make in one day covering 10 trips with full capacity. (3mks)

***120 x 18 = 2160***

***1 trip = 2160***

***10 trips = 2160 x 10***

***= shs. 21,600***

1. Use the divisibility test of 11 to check whether the following numbers are divisible by 11. (2mks)
2. 1048564

***( 1 + 4 + 5 + 4 ) – (0 + 8 + 6)***

***14 – 14 = 0***

***Divisible.***

1. 1120043

***( 1 + 2 + 0 + 4 ) – ( 1 + 0 + 4)***

***7 – 5 = 2***

***Not divisible***

1. Use Bodmas to evaluate. (3mks)

½ 3/5 + ¼ (7/3 – 3/7 ) of 1 ½ ÷ 5

3 5/7

***½ (3/5 + (40/21) of 1 ½ ÷ 5)***

***½ ( 3/5 + 10/21 x 3/2 x 1/5)***

***½ (3/5 + 1/7)***

***½ (26/35) = 13/35***

***13/35÷ 35/7***

***13/35 x 7/26***

***=1/10***

1. Victoria spent ¼ of his net January salary on school fees. She spent ¼ of the remainder on electricity and water bills. She then spent 1/9 of what was left on transport. If she finally had sh. 3400. What was her net January salary. (3mks)

***School fees= ¼***

***Electricity = ¼ x ¾ = 3/16***

***Transport = 1/9 x 9/16=1/16***

***Total = ½***

***½ = 3400***

***Total salary = shs. 6800***

1. Using mathematical tables evaluate.
2. 73402 (1mk)

***7.340 x 103***

***53.88 x 106***

***5.388 x 107***

1. 14.52 + 0.7142 (2mks)

***7.14 x 10-10 = 50.98 x10-2***

***210.3 + 0.5098***

***= 210.8098***

1. Given that a:b = 1:2 and b:c = 3:4. Find a:b:c (1mk)

***a:b:c (1x3) (2 x 3) (2 x 4)***

***1:2 a: b: c***

***3:4 3 6 8***

1. Three bells ring at intervals 30mins, 35mins and 50 mins. If they ring together at 11:25 p.m on Monday at what time and day will they next ring together. (3mks)

|  |  |  |  |
| --- | --- | --- | --- |
| ***2*** | ***30*** | ***35*** | ***50*** |
| ***5*** | ***15*** | ***35*** | ***25*** |
| ***3*** | ***3*** | ***7*** | ***5*** |
| ***5*** | ***1*** | ***7*** | ***5*** |
| ***7*** | ***1*** | ***7*** | ***1*** |

***2 x 5 x 3 x 5 x 3 = 450 mins***

***7hr 30mins***

***2325 6:50 a.m***

***730***

***2050 Tuesday***

1. The length of minute hand of a clock is 3.5cm. Find the angle it turns through if it sweeps an area of 4.8cm2. (take π=22/7) (3mks)

***A= Ѳ x πr2***

***360***

***4.8 = Ѳ x 22/7 x 3.52***

***360***

***Ѳ = 44.88O***

1. Express the following as a single fraction.
2. x-1 + x+2 + x (3mks)

2 4 5

***10 (x – 1) + 5 (x +2) + 4 (x)***

***20***

***10x – 0 + 5x + 10 + 4x***

***20***

***19/20x***

1. ax – ay + bx –by (2mks)

a+b

***a(x-y) + b (x – y)***

***a+b***

***(a+b) (x-y) = x-y***

***a+b***

1. Fifteen tractors each working eight hours a day takes eight days to plough a piece of land. How long would it take 24 tractors each working 10 hours a day to plough the same piece of land. (3mks)

***Tractors hours Days***

***15 8 8***

***24 10 ?***

***15x 8 x 8***

***24 x10***

***= 4 days***

1. Use factor tree to decompose 256 into prime factors. (2mks)

***256 = 2x128 2 x 8***

***2 x 64 2 x 4***

***2 x 32 2 x 2***

***2 x 16 2x 2 x2 x 2 x 2 x 2 x2***

***= 27***

1. Juma, Ali and Hassan share the profit of their business in the ratios 3:7:9 respectively. If Juma receives sh. 6000. How much profit did the business yield. (3mks)

***3=6000***

***19 = ?***

***=19 x 6000***

***3***

***= shs 38000***

1. Use bodmas to evaluate: (4mks)

5x6-76÷4+27÷3

4-2x4+36÷4

***30 – 19 + 9 4 – 8 + 9***

***20 5***

***= 20/5***

***= 4***

1. A Kenyan bank buys and sells foreign currency as shown in the table below.

|  |  |  |
| --- | --- | --- |
|  | **Buying (ksh)** | **Selling (ksh)** |
| 1 us dollar | 95.34 | 95.87 |
| 1 uk pound | 124.65 | 125.13 |

A tourist arrived in Kenya with 15000 pounds which he converted in kshs.

1. How much kshs did he receive? (2mks)

***15000 x 124.65***

***= 1869750***

1. He later spend sh. 125340 while in Kenya. He converted the remainder in dollars. How many dollars did he receive? (3mks)

***1867950***

***-125340***

***1,744,410***

***= 1744410***

***125.13***

***= 13940.78 dollars***

1. A metallic cuboid measuring 16cm by 8cm by 4cm was melted. The material was used to make a cube. What is the length of the cube? (3mks)

***V = L x W x h***

***= 18 x 8 x 4***

***= 512***

***Volume cube = L x L x L***

***= 512cm3***

***Length = 3√512***

***= 8 cm***

1. Find a if a2 = b2 + c2 given that b=2 c=3.5. (2mks)

***a2= 22 + 3.52***

***a2 = 16.25***

***a= 4.031***

1. Below is a travel timetable for a vehicle operating between towns A and D 70 km apart.

|  |  |  |
| --- | --- | --- |
| **Town** | **Arrival** | **Departure** |
| A |  | 10.10 am |
| B | 10.30am | 10.40 am |
| C | 11.00 am | 11.05 am |
| D | 11.20am |  |

1. At what time does the vehicle depart from town A? (1mk)

***10.10 am***

1. How long does it take to travel from town A to town B? (1mk)

***20 mins***

1. For how long does it stay in town B? (1mk)

***10 mins***

1. At what time does it arrive in town D? (1mk)

***11:20 a.m***

1. What is the average speed of the whole journey? (1mk)

***S= D = 70***

***T 1 1/6***

***= 60km/hr***

1. A football match lasts 90 minutes with a break of 15 minutes at half time. If a referee allows five minutes extra for injuries and stoppages, what time does a match which kicks off at 4:30 pm end? (3mks)

***90 + 15 + 5 = 1 hr 50 mins***

***16:30***

***1 :50***

***14:40 hrs***

***2:40p.m***

1. A rectangular plot measures 100m by 200m. Determine:
2. Its perimeter in km. (2mks)

***= 2 (100+200)***

***1000***

***= 0.6 km***

1. Its area in m2. (2mks)

***= 100 x 200***

***= 20,000m2***

1. Its area in ha. (2mks)

***20000 = 2ha***

***10000***

1. Square tiles of 100cm by 100cm are use to cover the floor. How many tiles are used? (2mks)

***= 10000 x 20000***

***100 100***

***= 100 x 200***

***= 20,000 tiles***

1. If the cost of 1 tile is sh. 25. How much money will be spent on tiles. (2mks)

***20,000 x 25***

***= 500,000***