**MJET**

**MATHEMATICS FORM 1**

**END OF TERM III 2019**

**Marking scheme**

|  |  |
| --- | --- |
| **NO** | **WORKING** |
|  | **NUMERATOR**  **-3 X6 -9÷3 + 2**  **-3 X 6 – 3 + 2**  **-18 - 3 +2 = -19 √** 1mk  DENOMINATOR  -2 x 4 – 3 x2  8- 6 =2 **√** 1mk  =- **19** ∕ 2 **√** 1mk |
|  | |  |  |  |  | | --- | --- | --- | --- | | 2 | 30 | 36 | 45 | | 2 | 15 | 18 | 45 | | 3 | 15 | 9 | 45 | | 3 | 5 | 3 | 15 | | 5 | 5 | 1 | 5 | |  | 1 | 1 | 1 | | =2 x2x3x3x5= 180 **√** 1mk  180 +7 = 187 **√ 1mk** | | | | |
| **3.** | Turkey = x  Chicken =y  x-y = 6 x-y = 6  ⅓ x - ¼ y = 6 4x + 3y =360 **√ 1mk**  4(x-y=6)  1(4x +3y=360)  4x-4y=24  - 4x +3y= 360  -7y= -336  7 7 y= 48 **√ 1mk**  **x-48= 6**  **x=6 + 48**  **x= 54**  **48 + 54= 102 √ 1mk** |
| **4** | 0.0168 x 2.46 x 7 x 1000000 = 168 x 246 x 7  5.74 x 0.112 x 1000000 = 574 x 112 10  = 0.45 = 45/100 = 9/20 **√ 1mk** |
| **5** | **=** 32 + 22 + 72    = 9 + 4+49 √ 1mk  = 62 √ 1mk  =7.874 **√ 1mk** |
| 6 | Let r = 0.7333333…………..(i)  10r = 7.33333333……………..(ii) m1    100r = 73. 333333…………….(iii)  Substituting (ii) from (iii)  90r = 66 m1  = A1 |
| **7** | Njoroge’s before increase= 100/112 x 5600= 5,000    3/5 x 5000= 5000= 3,000  9,600-5600= 4000 **√ 1mk**  4000-3000=1000 **√ 1mk**  1000/3000 x100= 33⅓% **√ 1mk** |
| **8** | **3.142 x 16 x ½ =25.136**  **3.142x 8 x1/2 =12.568 √ 1mk**  **3.142 x24 x ½= 37.704 √ 1mk**  **25.136 +12.568 +37.704= 75.408 √ 1mk** |
| **9** | **3a =5b= 20**  **6a- 5b= 12**  **9a =32**  **9 9**  **a= 32/9 √ 1mk**  **3(**32/9 +5b **=20 √ 1mk**  96/9 +5b=20  5b= 28/3  **b=28/15 √ 1mk** |
| **10** | **480 x 7= 3360**  **7.5 x 50 =375 √ 1mk**  **145 x 13= 1885**  **34 x 30= 1020**  **25 x50 =1250 √ 1mk**  **3360 + 37 +1885 +1020 +1250= 7890 √ 1mk** |
| 11 | X+100- x+160+3x-5 = 360 **√ 1mk**  x-x +3x +100 +160-5 =360  3x +260=360 +5  3x=360+5-260  3x/3=105/3 **√ 1mk**  X=350  **√ 1mk** |
| **12** | **NUMERATOR**  ½ X⅓ = 1/6  ¼ **+⅕ ÷** 1/6  **¼ + ⅕ X 6/1**  **¼ + 6/5=  29/20 √ 1mk**  DENOMINATOR  4/5- ¾ + ½ = 11/20 √ 1mk  ½ X 11/20  = 11/40 √ 1mk  **29/20 ÷ 11/20 = 29/20 X 40/11 = 58/11 √ 1mk** |
| **13a)** | **1600H -0800H= 730 √ 1mk**  **= 7H 30 MIN √ 1mk** |
| **b)** | **D= s xt**  **300 = s x 7 ½ √ 1mk**  2/15 x 300= s x15/2 x 2/15  **S = 40km/h √ 1mk** |
| **14** | **Kshs 5000 x 72.23= 36,1150 √ 1mk**  361,150-214500= 146,650  146650/135.97 x 1 **√ 1mk**  = 1078.55 sterling pounds |
| **15** | **C:\Users\MUKUI SEC SCHOOL\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.Word\img20190918_09003788.jpg** |
| **16.** | 1044 + (1006×180) **√ 1mk**  1006×180=181080 **√ 1mk**    1044+181080= 182,124 **√ 1mk** |
| **17. a)** | **Volume= cross section area x height**  **(12 x 5) x 15 √ 1mk**  **60 x 15**  **=900cm3 √ 1mk** |
| **b)** | **12 x 5 x 2 =120**  **5x 15 x2 √ 1mk**  **12 x 15 x2= 360 √ 1mk**  **360 + 150 +120= 630cm2 √ 1mk** |
| **c)** | **Density =mass/volume**  **8.6= M/630 √ 1mk**  **M = 630 x 8.6**  **M= 5418 g √ 1mk**  = 5418/1000 = 5.418 kg **√ 1mk** |
| **d)** | **(4.5 x 100) x (3.92 x 100)x (10x100) =17600000 √ 1mk**  **=17600000/630 = 280,000 √ 1mk** |
| **18. a)** | C:\Users\crystals\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.Word\img045.jpg |
| **b) i)** | **5.3 cm √ 1mk**  **5.3 x 1 = 5.3 km √ 1mk** |
| **ii)** | **True bearing 1990 √ 1mk**  **Compass bearing S 190 W √ 1mk** |
| **iii)** | **Compass bearing is N 190 E**  **C:\Users\crystals\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.Word\img046.jpg** |
| **19. a)** |  |
| **b) i** | **Sh 100 √ 1mk** |
| **ii** | **Sh 180 √ 1mk** |
|  |  |
| **c) i** | **1 call √ 1mk** |
| **ii** | **48 calls** |
| **d** | **Sh 70** |
| **20. a)** | **C:\Users\crystals\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.Word\img047.jpg** |
| **b)** | **A = ½ X 50 X 120= 3000**  **B= ½ (120 +90) X 300= 31,500**  **C= ½ X 350 X 90 =15750**  **D= ½ X 60 X 40= 1200**  **E =1/2 (60 + 150) X 410=43050**  **F=1/2 X 150X 150= 11250**  **TOTAL= 105,750**  **105750/10000 = 10.575 Ha** |
| **21. a)** | **14,000 x 280 =3,920,000 √ 1mk** |
| **b i)** | **No of sets 90/100 x 280 = 252 √ 1mk**  **Cost of one set = 125/100 x 14000= 17,500 √ 1mk**  **Total amount =252x17500= 4,410,000 √ 1mk**  **4,410,000- 3920000 x 100 =12.5 % √ 1mk**  **3920000** |
| **ii)** | **9/8 x 14 000 = 15750 √ 1mk**  **15750 x 250 = 3,937,500 √ 1mk** |
| **c)** | **Total ratio = 10**  **2/10 = 8**  **5/10 = x**  X= 5/10  x 8 x 10/2  **X= 20 cm**  **C:\Users\crystals\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.Word\img048.jpg** |
| **22 a)** |  |
| **23 a)** | **8x4 = 320 √ 1mk**  **60**  **15**  **20**  **70**  **+ 10**  **120**  **615 minutes √ 1mk** |
| **b)** | **1730hrs**  **-1015 √ 1mk**  **715 = 7:15am** |
| **c)** | **7:15am √ 1mk**  **+1:15am**  **8:30 am √ 1mk** |
| **d)** | **40 x 3 =120**  **40 x3 =120**  **120 +120= 240**  **240 +20=260**  **260/60 = 4 hrs 20 min √ 1mk**  **8:30 am**  **+4:20**  **12.50**  **12:50 Pm√ 1mk** |
| **e)** | **5:30 pm**  **-2.00**  **3:30pm √ 1mk**  **3:30**  **-10**  **3:20 PM** |
| **24 a)** | **360 x 500 = 180,000**  **180,000-100,000=80,000 √ 1mk**  **2/100 x 800,000=1600**  **12,000**  **+1600**  **13,600 √ 1mk** |
| **b) i)** | **110/100 x 12,000 = 13,200 √ 1mk**  **17600 -13,200 = 4,400 √ 1mk**  **2/100 x X = 4,400 √ 1mk**  **4,400 x 100/2 = 229,000 √ 1mk**  **100,000**  **+ 220,000**  **320,000 √ 1mk** |
| **ii)** | **320,000/500 = 640 √ 1mk** |