**MIDTERM 3 2022**

**FORM I MATHEMATICS EXAM**

**MARKING SCHEME**

|  |  |  |  |
| --- | --- | --- | --- |
| **No** | **WORKING** | **AWARD** | **EXPLANATION** |
| **1.** | (a)*-10-(-3)=-7*  -11 -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 1  (b)*+1-(-8)=+9*      -1 0 1 2 3 4 5 6 7 8 9 10 11 | **A1**  **M1**  **A1**  **M1** | Correct answer  Correct line  Correct answer  Correct line |
| **2.** | **BODMAS**    = | **M1**  **M1**  **A1** | *Removing brackets*  *Addition* |
| **3.** | =  =  =  = | **M1**  **B1**  **A1** |  |
| **4.** | = | **M1**  **M1**  **A1** |  |
| **5.** | , | **M1**  **M1**  **A1** |  |
| **6.** |  | **M1**  **M1**  **A1** |  |
| **7.** | A B    Or      A B | **M1**  **M1**  **B1**  **OR**  **B1**  **M1**  **M1** | **METHOD 1**  Construction of an acute angle.  Subdivision of the line obtained  Construction of parallel lines(Use of a set square.  **METHOD 2**  Construction of equal acute angles at A and B.    Dividing the two line obtained equally.  Joining the subdivisions |
| **8.** | a)    b) | **M1**  **A1**  **M1**  **A1** |  |
| **9.** | *5,005,005,005* | **M1**  **M1**  **A1** |  |
| **10** |  | **M1**  **B1** | *Total count*  *Simplification* |
| **11** | *(i)70.864*  *Value= 70* | **M1**  **B1** | *Correct calculation*  *Correct value* |
| **12** | *(a) 0*  *(b) 2500* | **M1**  **M1** |  |
| **13** | |  |  |  |  |  | | --- | --- | --- | --- | --- | | *3* | *3* | *7* | *11* | *13* | | *7*  *11*  *13* | *1*  *1*  *1*  *1* | *7*  *1*  *1*  *1* | *11*  *11*  *1*  *1* | *13*  *13*  *13*  *1* |   *Lcm 3 x 7 x 11 x 13*  *= 3003 + 1*  *= 3004* | **M1**  **M1**  **A1** |  |
| **14** | *Let the exterior angle be x*  *7x + x =180*  *8x=180*  *X=22.5*  *n =*  *n = 16 sides* | **M1**  **M1**  **A1** |  |
| **15** | *=2(-6) – 3(-2) +4*  *=-2* | **M1**  **A1** | *substitution* |
| **16** | *1 Chinese Yen=KSh. 12.34*  *195250Chinese Yen=?*    *Balance =*    *KSh. 11.35=1 South African Rand*  *=?*  *=*  *= S.A Rand*  *=* | **M1**  **B1**  **A1** |  |
| ***SECTION II: Mark any five questions (50 Marks)*** | | | |
| **17** | (a)  (b) (i) PR =11.3 x 10 = 113*m*  Bearing S670W OR 2470    (ii)SR = 10.2 x10 = 102  Bearing 180° | **M1**  **M2**  **M2**  **B1**  M1  A1  M1  A1 | Construction of the angle at P and locating Q.  Locating R at Q  Locating S.  Accuracy  Award 1 mark only if Northern lines are not parallel |
| **18** | (a)  C    E  70 **Q**  **R** 25 **P**  A 100 160 B  **M** 120 200  50 **N** 80 **O**  D  F  (b)(i)              (ii) | **M2**  **M2**  **M1**  **M1**  **M1**  **A1**  **M1**  **A1** | *Drawing the base line and the off sets.*  *Labeling*  *Indicating the measurements correctly* |
| **19** | (a) total sales = sh 360 x 500  = sh.180, 000  Commission  = sh  = sh.16000  Total ernings=sh.16000+sh12000  =sh.28000  (i) New salary  = sh.(12000 + 12000 x 10/100)  = sh. 13200  Commission paid  = sh(17,600 -13,200)  = sh.4400  Commission is paid on  = sh.22,000  Total sales = sh.22,000 + 100,000  =sh.122,000/=  (ii) no of handbags sold = = 244 Bags | **M1**  **M1**  **B1**  **A1**  **M1**  **M1**  **M1**  **A1**  **M1**  **A1** |  |
| **20** | (a) C    8cm  A 7cm B  (b) (i)  (ii)  (c) | **M1**  **M1**  **M1**  **M1**  **M1**  **A1**  **A1**  **M1 M1**  **A1** | *-Construction of line AB*  *-Construction of angle ABC with compass &a ruler only.*  *Accuracy*  *Bisector* |
| **21** | **Y-Axis**    **1600**  **1400**  **1200**  **12x + 4y =5600**  **1000**  **800**  **15x + 9y =7800**  **600**  **400**  **200**  **X-Axis**  **0** **200 400 600 800 1000 1200 1400 1600**  *(b) (i) One Artisan=Sh. 400*  *(ii) One Apprentice = Sh. 200* | **M1**  **M1**  **M1**  **M1**  **M1**  **M1** | *Proper Scale*  *Plotting of two points.*  *Drawing & Labeling the lines* |