**JINJA JOINT EXAMINATION BOARD**

**MOCK EXAMINATIONS 2022**

**S475/1 SUB MATHEMATICS**

**MARKING GUIDE**

|  |  |  |
| --- | --- | --- |
| NO | SOLUTION | MARKS & COMMENT |
| 1. |  | B1  M1  A1  B1  A1 |
| 2. | =2  =2  =2  =2  =2  =    =  **=** | M1  M1  M1  M1  A1 |
| 3. | C:\Users\TOSHIBA\Desktop\BABBBBB\IMG_20220527_124319_002~2.jpg  (i)  =3  =  =  =  **=**  (i)  =3  =  =  **=** | B1  M1  A1  M1  A1 |
| 4. | = 105 114 123132  = | B1  M1M1  M1  A1 |
| 5. | Let      Using ( 1,-3) | M1  B1  M1  M1  A1 |
| 6. | Standard deviation =  = | M1  M1  M1 M1  A1 |
| 7. | From | B1  B1  M1  M1  A1 |
| 8. | C:\Users\TOSHIBA\Desktop\BABBBBB\8.jpg  ……………(ii)  2  **F=** | B1  B1  M1  M1  A1 |
| 9. | i)    ii) At turning point,   1. Finding intercepts   For x-intercept,  C:\Users\TOSHIBA\Desktop\BABBBBB\9.jpg | B1  M1  M1  A1  M1  A1  B1  M1  M1  A1  B1  M1  A1  B1  B1 |
| 10. | |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | **Athletes** | **Time spent in 200m** | **Time spent in 400m** | **RX** | **Ry** | **D** | **D2** | | A | 64 | 150 | 4 | 5 | -1 | 1 | | B | 69 | 154 | 6.5 | 6 | 0.5 | 0.25 | | C | 56 | 133 | 1 | 1 | 0 | 0 | | D | 72 | 169 | 8 | 8 | 0 | 0 | | E | 57 | 140 | 2.5 | 2 | 0.5 | 0.25 | | F | 68 | 159 | 5 | 7 | -2 | 4 | | G | 57 | 146 | 2.5 | 4 | -1.5 | 2.25 | | H | 69 | 143 | 6.5 | 3 | 3.5 | 12.25 | |  | | | | | |  |   =            C:\Users\TOSHIBA\Desktop\BABBBBB\SCA.jpg | B1  B1  B1  M1  M1  A1  B1  M1  B1 B1  B1  B1  B1  B1 - Line of best fit  B1 |
| 11. | bi)=  =  =  =  =  ii)2  =  =  = 24.7    iii)      17= | M1  M1  A1  M1  M1  M1  M1  A1  M1  A1  M1 M1 M1  M1  A1 |
| 12. | Let x demote the height of babies  i)  =  C:\Users\TOSHIBA\Desktop\BABBBBB\12 i.jpg  =  =  **=**  C:\Users\TOSHIBA\Desktop\BABBBBB\12 ii.jpg      **=0.2957**  iii)      C:\Users\TOSHIBA\Desktop\BABBBBB\12 iii.jpg    =0.5 -0.4599  =0.0401  The approximate number of babies out of 150 babies with height more than 52cm is 0.0401 x150  = 6.015  ≃**6 babies** | B1  M1  M1  A1  B1  B1  M1  M1  A1  B1  M1  A1  M1  A1 |
| 13. | i) price relative =  For sugar =  =120  The price of sugar increased by 20%  For maize flour =  =77.27  The price of maize flour reduced by 23.27%  For beans =  =86.21  The price of beans decreased by 13.79%  For soap =  =140  The price of soap increased by 40%  For rice =  =81.25  The price of rice reduced by 18.75%  ii) Simple aggregate price index =  =  =  =104.64  The price of items increased by 4.64%   1. Value index =   =  =  **=122.68**  The prices of the items increased by 22.86% | A1  A1  A1  A1  A1  M1  M1  M1 A1  B1  M1 M1  M1  A1  B1 |
| 14. | C:\Users\TOSHIBA\Desktop\BABBBBB\14.jpg   1. Average speed =   Average speed =  **=7.5ms-1**   1. Average speed from P to Q =   =  **=6.25s**  Average speed from P to R=  =  =9.268ms-1   1. Average speed for the whole journey =   6 =  6=78.5  =13.08 seconds   1. Average velocity =   = | M1  M1  A1  M1  M1  A1  M1  M1  M1  A1  M1  M1  M1  A1 |