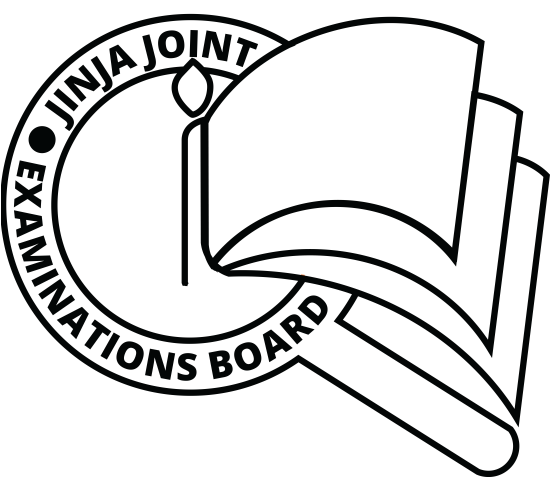
****JINJA JOINT EXAMINATIONS BOARD**

**MOCK EXAMINATIONS 2022**

**P425/2 MATHEMATICS**

**MARKING GUIDE**

1. T1 T2 = 2T1  **B1**

d

A B

20N 16N

(T) : T1 + 2T1 = 36 **M1**

T1 = 12 **B1**

T2 = 24

M(A) : 20 x 2 + 16 x d = 24 x 4 **M1**

d = 3.5m **A1**

**05**

1. P(P Q) = **B1**

= 0.6 x 0.9

= 0.54

P Q

0.06 0.54 0.26 **B1**

0.14

1. P (P or Q but not both P and Q) = 0.06 + 0.26

= 0.32 **A1**

1. P(P(Q) =

= **M1**

= **A1**

**05**

1. (a) **B1** **M1**

**A1**

(b) = **MI**

**A1**

**05**

1. (a)

VR

(b)

**B1**

Direction is **A1 05**



**B1**

**B1**

**M1**

**M1**

**A1**

**05**

1. **B1**

**B1**

**B1**

|  |  |  |
| --- | --- | --- |
|  |  |  |
| 0 | 1.000 |  |
|  |  | 1.255 |
|  |  | 1.462 |
|  | 1.425 | 1.551 |
| Sum | 2.425 |  |
|  |  | 4.268 |

**M1**

**A1**

**05**



**B1**

**B1**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | 3 | 6 | 7 | 1 | 8 | 4.5 | 2 | 4.5 |
|  | 2 | 5 | 6 | 1 | 8 | 7 | 4 | 3 |
|  | 1 | 1 | 1 | 0 | 0 | -2.5 | -2 | 1.5 |

**B1**

**M1**

**A1**

**05**



**M1**

**B1**

Power =

**M1**

When power = **M1**

**A1**

**05**

1. (a)
2. **M1**

**B1**

Number of candidates in the school **M1**

**A1**

1. **M1**

**B1**

Number who got distinctions.

**M1**

**A1**

(b) **B1**

**M1 M1**

**A1**

**12**

1. (a) y

P (

y

O

If the particle is projected with speed at an angle to the horizontal, then,

(1) **B1**

(2) **B1**

(3) **B1**

(4) **B1**

Substituting (3) into (4) for t,

**M1**

**B1**

(b)

(i) using

**M1**

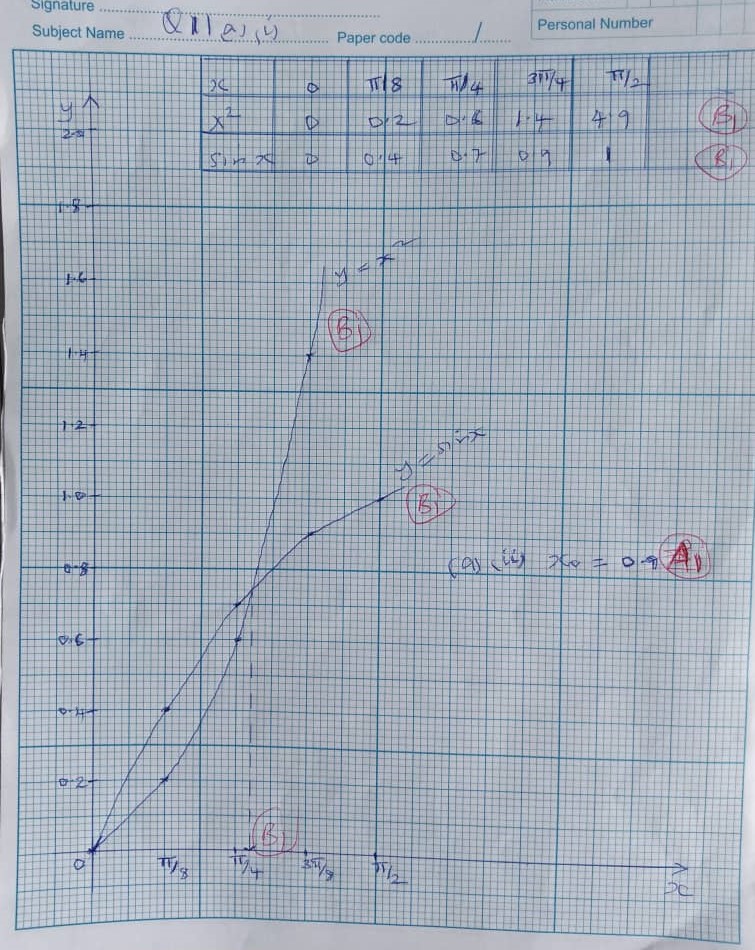
**B1**

**M1**

**M1 A1 A1**

**12**

1. (a) (i)



1. (ii) **A1**

(b)

**M1**

**M1**

**B1**

**M1**

**B1**

**A1**

**12**



**M1**

**M1**

**B1**

**A1**

1. **B**

Speed **M1**

**A1**



**M1**

;

**M1**

**B1**

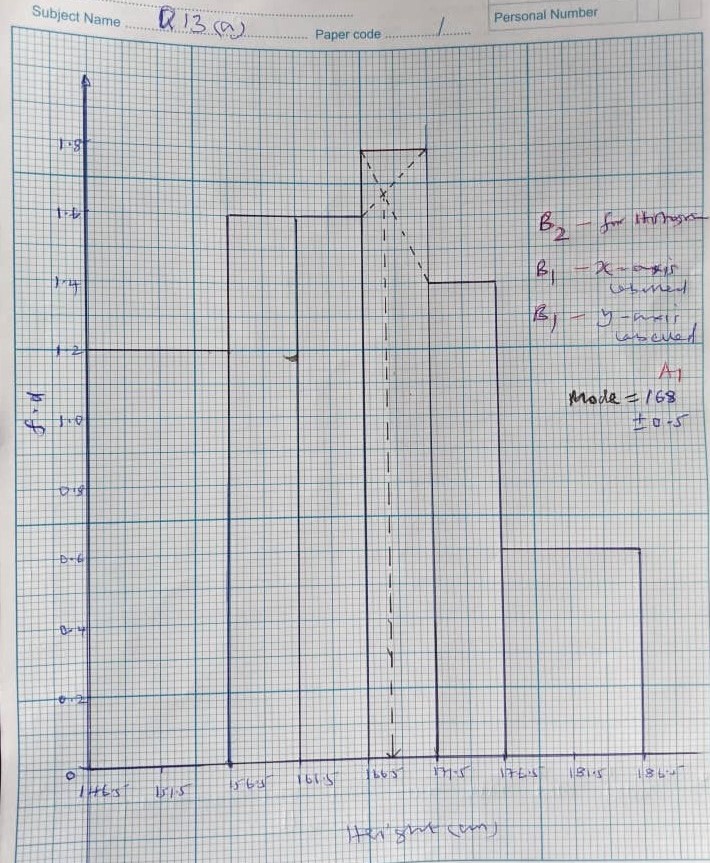
**M1 A1**

**12**

1. (a)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Height | *f* | X | Xf |  | *f.d* |
| 147 – 156 | 12 | 151. 5 | 1818 | 275427 | 1.2 |
| 157 – 161 | 8 | 154 | 1272 | 202248 | 1.6 |
| 162 – 166 | 8 | 164 | 1312 | 215168 | 1.6 |
| 167 – 171 | 9 | 169 | 1521 | 257049 | 1.8 |
| 172 – 176 | 7 | 174 | 1218 | 211932 | 1.4 |
| 177 – 186 | 6 | 181.5 | 1089 | 197653.5 | 0.6 |
| Sum | 50 |  | 8230 | 1,359,477.5 |  |

**B1 B1 B1**

****

1. (i) Mean height = **M1**

= 164.6 **A1**

(ii) Standard deviation = **M1**

= 9.8178 **A1**

**12**

1. (a)

**B1** = 0.01848 **B1**

A max **M1**

= 0.602

= 0.60 **A1**

A min = **M1**

= 0.500 **M1**

= 0.50 **A1**

(b) **M1**

=

If **B1**

**M1** **B1**

**M1**

**B1**

**12**

1. (a)

y

k y = k **B1**

0 4 **B1** for axes

(b) (i) **M1**

**A1**

(ii)

**M1**

**M1**

**A1**



**B1**

**M1**

**M1**

**A1**

**12**

1. 20N
2. R

300

2g **B1**

250

( ) : **M1**

**B1**

( ) : **M1**

**B1**

**M1**

**A1**

1. R

**B1**

( ) : **M1**

**M1**

**B1**

Particle will remain at rest if the friction force is large enough to balance the component of its weight down the plane.

Component weight

**M1**

Since particle will remain at rest. **B1**

**12**

**E N D**