**Making scheme**

**Mathematics Form IV PAPER 121/1 2017**

1. 

2. 



3.



4. (a) HCF of 608 and 264

608 = 2 x 2 x 2 x 2 x 2 x 19

264 = 2 x 2 x 2 x 3 x 11

HCF = 23 = 8

Maximum distance between the posts = 8m.

(b) 

5. 

6. 

W

Z

Y

V

X

V

V

V

7. a)

(b)

8.



9. (a)

(b)

10. (a) 1.8 – 2.0

(b) Class Mid-points(*x*) *f fx*

1.2-1.4 1.1 10 11

1.5-1.7 1.6 9 14.4

1.8-2.0 1.9 15 28.5

2.1-2.3 4.4 6 26.4

*∑f*= 40 *∑fx* = 80.3

= 80.3

40

= 2.01kg

11.





12. 

|  |  |  |  |
| --- | --- | --- | --- |
| X | 0 | -1 | 1 |
| y | 2 | 0 | 4 |

Roots: x = -1.5 0r 1

13. Gradient of y = -4x +3 = -4

Gradient of line perpendicular to it is ¼. B1

*y = mx + 3*

*5 = ¼ (-8) + C for substitution B1*

*7 =C*

*Y= ¼ x+ 7 for equation B1*

14. x = Joyce’s salary

y = Chui’s salary

 for equation M1

 for solving B1

*x* = 45 000 A1

*y* = 36 500

Chui’s salary = Kshs 36,000 A1

15. 

16. (a)

(b)

**SECTION II** (50 marks)

17. (i)



(ii)



(b) 

18.



(b)



(c)



19. (a)

(i) *PT = -b + a*

*= a – b*

(ii) *PX = b + k (a – b)*

*= (ka +(1-k) b*

(iii) *QS= 3a + 2b*

(b) *QX = t (3a + 3b)*

*= 3t a + 2tb*

*QX = b + k (a - b)*

*= k a + (1-k) b*

(c)

**

(d)

**

20. (a) H.S 1cm rep 5 units

V.S 2 cm rep 2 units

|  |  |  |  |
| --- | --- | --- | --- |
| Class | Class width (w) | Frequency (f) | Frequency density |
| 0-4  5-14  15-24  25-44  45-74 | 5  10  10  20  30 | 14  41  59  70  15 | 2.8  4.1  5.9  3.5  0.5 |

(b) (i) 25-44

(c) (i) 25 years or less

(ii) Between 30 and 70 years.

*h*

M

N

108º

T

13 cm

10 cm

α

21.

(a)



(b) (i) 

(ii)



(iii) 

22. (a)



(b)



(c)



23. (a) Correct drawing of image.

Two vertices correctly drawn.

(b) Only correct drawing earns marks.

(c) Only correct drawing earns marks.

(d) A reflection in the line *y = -x*

(e) *x = -1.5* and *y = o*

24. (a)



(b)

