****

**MATHEMATIC**

**MARKING SCHEME**

**PAPER 121/1**

**SECTION A**

11.8(72 – 52)

-18 + 2X - 3

11.8(7 - 5)(7 + 5)

 -18 - 6

= **-11.8**

 1 1

11.8 x 2x + 2

 24

 12

 1

1. (2n + 3) + (2n + 1) + (2n - 1) + (2n - 3) = 1768

 8n = 1768

 n = 221

nos. 221, 223, 225, 227

1. 85% - 2700

 2700 x 100

 85

100 x 3176.50

 110

 100% x

 110% 3176.50

 100%

 = **2887.70**

1. (180 - 108) + (180 - 162) + 90 (6 – 3) x = 360

72 + 18 + 90 + 3x = 360

 3x = 180

 x = 600

exterior angles, 72, 18, 90, 60

largest exterior 720.

173.2

30

A

100

B

C

x

 Tan 30 =

 (100 + x) = = 300

 x=200m

 tan =

 = 40.890

D

A

D

E

F

A

6cm

8cm

10cm

B

C

 AB == 10cm

A

B

 -4

C

6

1. =

 = 1

C( , = C(3, 2)

2x - 3y = 12 -

M1 = M2 =

 = , 2y – 4= 9 – 3x

2y + 3x = 13

1. q= 7x

 + = 1

2 + 6q - 7 =0

q= - 7gms q=1

7x = 1 = 70

X=0

1. -

2

2

2

 2

-1

1

 -

1. ≤ 2

 ≥ -2

 3x – 4 ≥ -6

 3x ≥ -2

 X ≥

 ≤ 2

 x + 1 ≤ 8

 x ≤ 7

= ≤ x ≤ 7

X=0,1, 2, 3, 4, 5, 6, 7,

-6

-21

2

7

- 8

-28

1

3.5

2

7

-1

-3.5

1. AB= - =

AC = - =

 = + = 8

AB=8AC, A is a common point therefore A, B and C are Collinear

1 + 1

3 5

8

15

1. In 1 min, =

 8

15

* 1 min

200 -> 200 x

= 375 minutes

1. CSA = x x

 = 13.86 cm2

 Rate = 50m/min

 =5000cm/min

 Volume = 13.86 x 5000

2 /min

 =

 69.3 litres/min

B

A

C

30

20

60

60

 AB2 = 202 + 302 – 2X30X20 COS 120

 AB =

 = 43.6 km

1. +

 10 + 0.3 x 2.348-1

 8.4 x 10-2 + 0.3 x 0.4229

 0.084

 0.12717

 0.21117

 4 dp

1.

106

106

 1 1 1 2

 1

 = **4**

1.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Marks | X | F | Fx | cf |
| 1 – 10 | 5.5 | 8 | 44 | 8 |
| 11 – 20 | 15.5 | 23 | 356.5 | 31 |
| 21 – 30 | 25.5 | 55 | 1402.5 | 86 |
| 31 – 40 | 35.5 | 36 | 1278 | 122 |
| 41 - 50 | 45.5 | 18 | 819 | 140 |
|  |  | 140 | 3900 |  |

1. = = 27.857
2. Median = L.C.B. + - 4 c

f

55

 - 31 10

 20.5 +

55

 20.5 + 39.5 10 = 27.68

1. Modal class 21 – 30
2. Graph

18.

365 km

A

B

200 km

45 km 9.00am

x

Bus

8.15 a.m.

60 km/hr

100 km/hr

Car

9.00am

1. Time travelled by bus between 9.00 a.m. – 8:15 am

 T=45 min

 D= S x T = x 60 = 45 km

 Distance remaining to reach to reach B= 365 – 45 = 370km

 Time = Time to reach c

 Bus car

 = = 7 100 x = 19200 – 60x

 160x = 19200

 X= 120km

 T= = = 2 hrs

 Time =9.00a.m

 + 2.00 hrs

 11.00am

 (b) Distance AC = 45 + 120

 = 165 km

(c) 11.00 a.m. Distance travelled from c by

 11 bus=60 x 1 = 60 km

 Bus to cover 140 km

 Car to cover 200km

 = =

 = -> =

h

2cm

2cm

4cm

 =

 4h = 4 + 2h

 2h = 4

 H = 2cm

 Altitude = 2cm

1. Volume = Base area x height = x 5 x 8 x 4

 = 53.33 cm3

 Volume top part = x 4 x 2.5 x 2 = 6.667

 Volume of frustum = 53.33 – 6.67 = 46.67cm3

1.

4cm

2.5

tan = = 57.990

1.25

B

H

1.25

2.5

2

d)

2

3.75

 Tan

 6 = 28.070

1. Graph
2. (a) v = 3t2 – 10t + 3

 a = 6t - 10 (t = 2)

 = 12 – 10

 = 2 mls2

(b) Maximum height v=0

 3t2 – 10t + 3 = 0

 3t2 - 9t t + 3 = 0

 3t(t – 3) – 1(t – 3) = 0

 (3t – 1) (t – 3) – 0

 t = or t = 3

 t= 3 sec

2

3

2

3

2

3

5

4

3

2

(c) - + Bt + c

 = t - 5 t + 3t + c

 5 - 5 (5) + 3 (5) + c - 4 - 5 (4) + 3 (4)

 (125 - 125 + 15) - (64 - 80 + 12)

 15 - (-16) = 31 metres

1. Max velocity acceleration = 0

A = 6t – 10 v= 3 - 10 ( + 3

 6t = 10 max = 8.33 - 16.67 + 3

 t= = sec -5.34 m/s

1. (a) Let Peter take x min, John y min and Ronny z minutes

 + + =

 + =

 + =

 + = = z = 90

Ronny takes 90 minutes

 + = = x = 72

Peter takes 72 minutes

 + = = y = 120

John takes 120 minutes

(b) 120% - 64.80

 100% - = 54

54

6 4 = 3:2

1. (a) AC =

 = 6.708 cm

(b) BOT = 32 x 2 (text =

 = 640

(c) ACB = 90 – 32 (

 = 580

(d) AMB

 AOB=180 - 32 x 2 (oh = OB)

 = 1160

 AMB = (L en circumference = ½ L at

 = 580

(e) CBT = BAC (Ls in alternate segments)

 = 320

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| X | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
| Y | -28 | **0** | **6** | 2 | 0 | **12** | **50** |

Y=0

X=-2, x=1/2, x= 1

2x3 + x2 - 5x + 2 = 6x + 12

 Y = 6x + 12

X = -2, x=-1, x= 2.5