**SET 2**

 **MATHEMATICS PP2 MARKING SCHEME.**

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| 1 |

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| 0.04850.585089.2834 | **+** **-** |

 | B1M1M1A104 | **🗸** log of 3.846 and +🗸 log S+ - & CAO |
| 23 | M1M1A103 | M1M1A1 | Removal of root signFactorization  |
| 4 | (x-y)6=1.x6.y0-6.x5.y1+15x4y2 -20x2y3  =x6-6x5+15x4y2-20x3y3(0.98)6=(1-0.02)6 x=1,y=0.02(0.98)6=16-6.15(0.02)+15(1)4(0.02)2 20(1)3(0.02)3 =1-0.12+0.006-0.00016 =0.8854 | M1M1M1A104 | Allow substitution into the whole expressionCAO |
| 5 |  | M1M1A103 | L . H . S |
| 6 | SU.TU=QU.RUSUx14=31x16 SU=31x16 14 =35.43cm | M1M1A103 | CAO |
| 7 |  | M1M1A103 |  |
| 8 |  | M1A1B103 | Or alternative allow 27209.78allow 7209.78 |
| 9 |  | M1A1B103 | Or alternative |
| 10 | x2+8x+y2-2y=1x2+8x+42+y2-2y+(-1)2=1+16+1(x+4)2+(y-1)2 =18x= -4, y=1, r=(-4,1) and radius = 4.243 | M1M1A103 | for both centre and radius. |

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| 11 | BAD = 480BDC = 240BEC = 180 | B1B1B103 |  |
| 12 | 4x2-32x-20+kb2 = 4ac(-32)2=4x4(20+k) 64 = -20+k K = 84 | M1A102 |  |
| 13 |  | M1A102 |  |
| 14 |  | B1M1M1A104 |  |
| 15 |  | M1M1A103 |  |
| 16 |  | **B1****B1****B1****03** | bisector of at Pbisector of line PRmeasure of QX |
| 17(a) |  | **M1****A1** |  |
| b) | 1st 6000x2=120002nd6000x3 =180003rd6000x4 =240004th6000x5 =300005th 6000x6=360006th 6000x7=420007th 2280x8 1842Tax due =Ksh.180,240paLess relief 18,000Tax payable 162,240 PAYE = 13,520 | **M1****M1****M1****A1** | For the 1st 3slabsFor 18,240Process of - reliefCAO |
| c | Total deduction=13520+320+1000+2000+5000+500=Ksh.22,340 | **M1****A1** | addition |
| d | 38280-22340=Ksh.15,940 | **A1****10** |  |

18 a) y=2x2+5x – 12 for 8<x< 4

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| X | -8 | -7 | -6 | -5 | -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 |
| 2X2 | 128 | 98 | 72 | 50 | 32 | 18 | 8 | 2 | 0 | 2 | 8 | 18 | 32 |
| 5X | -40 | -35 | -30 | -25 | -20 | -15 | -10 | -5 | 0 | 5 | 10 | 15 | 20 |
| -12 | -12 | -12 | -12 | -12 | -12 | -12 | -12 | -12 | -12 | -12 | -12 | -12 | -12 |

 b) y = 2x2+5x-12

 0=2x2+5x-12

 y =0

 2x2+5x-12=y x-3

 -3x2-7x+3=0 x2

 -6x2-15x+36= - 3y

 -6x2-14x+6 = 0

 -x+30 = -3y

 -3y = - x+30

 y = 1/3  x + 10

|  |  |  |  |  |  |  |  |
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| x | -9 | -6 | -8 | 0 | 3 | 6 | 9 |
| y | 7 | 8 | 9 | 10 | 11 | 12 | 13 |

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| 19(a)bc | A=32x+1Ar=9x, ar2 =81 | **M1****M1****A1****B1****M1** **M1** |  |
|  d | ar4-ar6 | **A1****B1****M1****A1****10** | Both and d |

20

 a) length XV = 300 sm 700 M1

 = 281.9cm A1

b) Arc length VBW = 

 

 c) Length XAY

 

 d) Length of the conveyor belt

 =691.2+439+(2x281.9)

 =1694.88