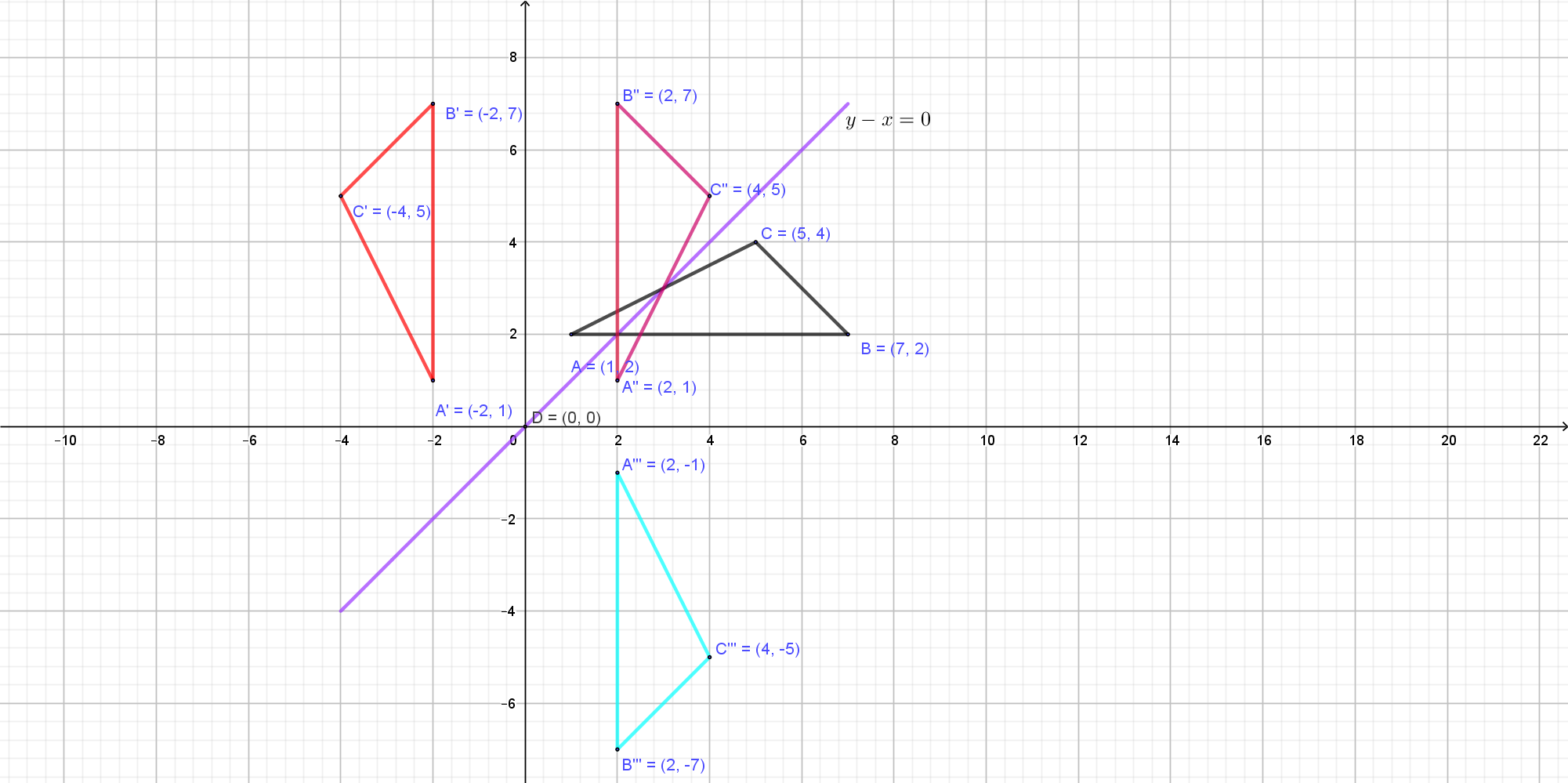
**SUNRISE MATHEMATICS PP1 MARKING SCHEME**

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |
|  | Numerator: 12 x 3 – 7/4 = 36 – 7/4 = 72 – 175  5 10 50 100  = -103  100  Denominator: 11 – 68 x 4/9 = 11 – 272 = 891 - 1088  4 9 4 81 324  = -197  324  162  N/D= -103 x 324 = 16686 = 6836  100 197 9850 9850  50  = 3418  4925 | B1  B1  A1 | Numerator  Denominator |
|  | = 433 + 473 + 533  = 332 207 x 29  = 9,634.003  Total value 600,000 | M1  M1  A1 | Cubing and summing up  Multiplying by 29  C.A.O. |
|  | Amount received = 86.70 x 75 340 x 98  100  = Sh. 6401,338.44  Total expenditure = 2,570,000 + 1,750,000  = Sh. 4,320,000  The balance = 6401338.44 – 4320000  = Sh. 2,081,338.44  No. of Rands = 2,081,388.44 x 95  27.95 100  = 70,744.86648  = 70745 | M1  M1  M1  A1 | Multiplication  Subtraction  Multiplication/Division  C.A.O. |
|  | Time taken cycling = 60/30 = 2 hrs  Remaining distance = 74 – 60 = 15km  Time taken walking = 15/15 = 1 hr  Total time spent = 2+1+1h 15 min  = 3hr 15 min  Arrival time = 9.49+3hr 15min  = 1304hrs | M1  M1  A1 | Totalling of the time  Addition of the time  Expressing in 24 hours |
|  | S = (2n – 4) 90  S = (2x5 – 4) 90 = 540⁰  = 2x + 100⁰ + 100⁰ + 2x – 40 + 2x - 10⁰ = 540  6x + 150⁰ = 540⁰  6x = 390⁰  x = 65⁰  ∟ABC = 2x65 – 10 = 120⁰ | M1  M1  A1 | Formation of equation  Collection of like terms  C.A.O. |
|  | 0.007429 ½ = (7.429 X 10-3) ½  = (74.29 X 10-4) ½  = √74.29 X 10-2  = 8.6191 X 10-2  = 0.086191  (8.6191 X 10-2)-1 = 8.6191-1 X 102  = 0.116  = -21.15 X 0.116  = -2.4534 | B1  B1  A1 | Square root  Reciprocal  Correct product |
|  | A.S.F. = 40000000000cm2  Area of village = 40000000000 x 2 x 3.2  = 256 000 000 000cm2  Area in km2 = 256 000 000 000  10000000000  = 25.6km2 | M1  M1  A1 | Area of the village  Conversion into km2  C.A.O. |
|  | 2X – 3Y = -17  5X + 6Y = -2  2 -3 x = -17  5 6 y -2  1 6 3 2 -3 x = 1 6 3 -17  27 -5 2 5 6 y 27 -5 2 -2  x = 1 -108  y 27 81  x = -4  y 3  x = -4  y = 3 | M1  M1  A1 | Pre-multiplication by determinant  Simplification  Correct values of x and y |
|  | Pupils Km days Milk  100 20 30 144  200 5 x 432  No.. of days = 30 x 200 x 5/20 x 432  100 144  = 45 days | M1  A1 | Compounding the ratio  C.A.O. |
|  | = (23)⅔ x (54)3/2    (22)5/2 x (52)3/2  = 22 x 56  25 x 53  = 2-3 x 53  = ⅛ x 125  = 125  8  = 15 ⅝ | M1  M1  A1 | Expressing in index form  Applying laws of indices  Expressing as a fraction |
|  | and | M1 A1 |  |
|  |  | M1  M1  A1 |  |
|  | Area of triangle AOC =  Area of sector =  Area of unshaded region = | M1  M1 A1 |  |
|  | |  |  |  | | --- | --- | --- | | No | Std f | Log | |  |  | **3.1162** | | 0.02573 |  | .4104 | |  |  | **1.5266** | | 1.938 |  |  | |  |  |  | | 2.737 |  | 0.4374 | | M1  M1  *M1*  *A1* |  |
|  | and  Length | M1  A1  B1 |  |
|  | E 10 D  13 F  A 10 B  C D  12 12  B C  13  B 10 D | B1  B1 | Correct shape  Correct + labeling dimensions |
| a) | 1 ½ y = 8 -⅔x  y = 8 - ⅔ ÷ 1 ½ x  1 ½  y = 5 1/3 – 4/9x  y = -4/9x + 5 1/3  M1 = -4/9  M2 = 9/4  = y – 3.5 = 9/4  x + 2  4y – 14 = 9x + 18  y = 9/4x + 8 | M1  B1  M1  A1 |  |
| b) | y + 5 = 9/4  x + 4  4y + 20 = 9x + 36  -9x + 4y = 16  9x – 4y = 16 | M1  A1 |  |
| c) | 9x – 4y = -16  2x + 5y = -33  18x – 8y = -32  (18x + 45y = 297)    -53y = 265  y = -5  but 2x + 5y = -33  2x + 25= -33  2x = -8  x = -4  the lines meet at (-4,-5) | M1  M1  M1  A1 | Formation of simultaneous equations  Attempting to solve for y  Attempting to solve for x  C.A.O. |
| i) | A:B = 8/3:23/4  x 12 = A:B = 32:69  B:C = 13/4:46/9 x 36 = B:C = 117:184  A:B =32:69 (i) x 39  B:C = 117:184 (II) X 23  A:B = 1248:2691  B:C = 2691:4232  = A:B:C = 1248:2691:4232 | M1  M1  A1 | Ratios express as whole numbers  Equalizing the value of B  Ratios in simplified form |
| ii) | Gross profit = 90,000 x 12  = 1,080,000  Net profit = 1,080,000 – 12 x 27,000  = 756,000 | M1  A1 | Gross profit – expenses  Net profit |
| iii) | A share = 1248 x 756000  8171  = Sh. 115 467.90  No. of cows = 115 467.90  60000  = 1.92446457  = 1 cow | M1  A1 | Division |
| iv) | New value = 80 x 2451300  100  = 1,961,040  C gets = 4232 x 1961040  8171  = 1,015,680 (share)  C gets = 756000  3  = Sh. 252,000  Amount received by C = 1015680 + 252000  = Sh. 1,267,680 | M1  M1  A1 |  |
|  | SEE BELOW |  |  |
|  | (i) commission =Sh. 9000  = Sh.44 000  (ii) Commission earned =  Marked price    *% Profit* | M1  M1 A1  M1  M1  A1  M1 A1  M1  A1 |  |
|  | C:\Users\user\Desktop\img20220602_21090901.jpg | B3 – 2 mks for each inequality  B3 for correct line ie bold or dotted and must be written  M2 for a good scale  B2 – for region R  NB  Many stds dislike it hence a motivation for those who attempted |  |
|  | = x 90 = 210km  Remaining distance = 360 – 210 = 150km  As = 90 + 110 = 200km  Time for meeting = = 0.75 hrs  = 45 mins  Meeting time = 10.35  + .45  11.20 a.m | B1  B1  M1  A1 |  |
|  | (ii) Distance from A 210 + (0.75 x 90)  = 210 + 67.5  = 277.5 km | M1  A1 |  |
|  | (b) Time minibus arrived at B  Time = = = 4 hrs  = 8.15 + 4 hrs = 12.15 p.m  Time taken by the tourist to arrive  B = 12.15 pm – 10.30 a.m = 1 hr 45 min  = 1 x 100  = 175km  ∴ Home to B = 175km  Home to A = 360 – 175  = 185km | M1  M1  A1  B1 |  |
|  |  |  |  |
|  | (i)  (ii)        (i)  (ii) | B1  B1  B1  B1  B1  M1  M1  A1 (both )  B1  B1 |  |
|  | (i) Width = Length  and    (ii) Remaining area | M1  M1  M1  A1  M1  A1  M1  A1  M1  A1 |  |
|  |  |  |  |
|  |  |  |  |

QS 19



B1

B1 Centre of rotation

B1

B1 Mirror line

B1

B1 Coordinates

B1 mirror line

B2

B1 Coordinates