

```

1 DATA DataFile;
2 LENGTH Xtime Yvalue 8;
3 INFILE DATALINES;
4 INPUT Xtime Yvalue;
5 FORMAT Xtime 5.1 Yvalue 6.2;
6 DATALINES;
7 0.0 10.1
8 30.0 13.7
9 60.0 15.0
10 90.0 14.0
11 120.0 12.8
12 150.0 11.1
13 180.0 8.90
14 ;
15 RUN;
16 %MACRO AUC(baseline, dataset, output);
17 DATA &output;
18 SET &dataset (WHERE=(Xtime GE 0));
19 RETAIN Basevalue;
20 IF &baseline = 0 THEN Basevalue = 0.0;
21 IF (&baseline = 1 OR &baseline = 2) AND _N_ = 1 THEN Basevalue =
22 &Basey;
23 Yvalue = Yvalue - Basevalue;
24 DROP LagTime LagValue;
25 LagTime = LAG(Xtime);
26 LagValue = LAG(Yvalue);
27 IF Xtime = 0 THEN DO;
28 LagTime = 0;
29 LagValue = 0;
30 END;
31 IF &baseline = 2 AND Yvalue > 0 AND LagValue <= 0.0 THEN DO;
32 DROP Ratio;
33 Ratio = Yvalue / (ABS(LagValue)+Yvalue);
34 Trapezoid = Ratio*(Xtime-LagTime)*(Yvalue+0.00)/2;
35 END;
36 ELSE IF &baseline = 2 AND Yvalue < 0 AND LagValue >= 0.0 THEN DO;
37 DROP Ratio;
38 Ratio = LagValue / (LagValue+ABS(Yvalue));
39 Trapezoid = Ratio*(Xtime-LagTime)*(0.00+LagValue)/2;
40 END;
41 ELSE IF &baseline = 2 AND Yvalue < 0 AND LagValue < 0 THEN Trapezoid =
42 0.0;
43 ELSE Trapezoid = (Xtime-LagTime)*(Yvalue+LagValue)/2;
44 SumTrapezoid + Trapezoid;
45 FORMAT Trapezoid SumTrapezoid 8.3;
46 RUN;
47 %MEND AUC;

```