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ME-I

1.   (d) $\log|1+\log x|+constant$

2.   (b) x^2+1

3.   (c) $[0,1) \cup (1,\infty)$

4.   (b) $x=0, y=3$

5.   (c) a composite, one-to-one and onto function

6.   (c) $x^y=y^x$

7.   (b) 180

8.   (d) none of these

9.   (d) none of these

10.   (c) differentiable everywhere

11.   (c) 2/3

12.   (b) X's method is correct, but Y's and Z's methods are wrong.

13.   (b) 15

14.   (c) (-5, 6)

15.   (b) a unique minimum but no maximum

16.   (c) K(n) is always divisible by 6

17.   (a) 2/25

18.   (b) 8/5

19.   (a) equal but have opposite signs

20.   (d) greater than or equal to 4

21.   (d) no such x exists

22.   (c) a root between 0 and 1

23.   (a) $k^3/2$

24.   (a) $(n+1)p-1 < r < (n+1)p+1$

25.   (b) $\sigma' < \sigma$

26.   (a) increasing in x

27.   (c) P is bistochastic with elements 0 and 1.

28.   (d) decreasing in n

29.   (d) The limit does not exist

30.   (c) $(x_1^*=10, x_2^*=11)$