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ISI: Year 2007

ME-I

1. (a) α/β
2. (b) not prime
3. (a) $k=\log 2$
4. (d) none of these
5. (d) none of these
6. (c) $x=4$
7. (b) $1/(2f(x)-1)$
8. (a) PQ
9. (c) $(\frac{1}{2})\log|x^4+2x|+$constant
10. (d) $(-\infty, 1) \cup (2, \infty)$
11. (b) f_2 is one-to-one and onto, but not f_1
12. (b) $(2\log(a/b)+(b^2-a^2)/ab)(a/b)^{a+b}$
13. (d) infinitely many solutions
14. (a) $f(x;\theta)$ is a p.d.f. for all values of θ
15. (c) $-0.5 < r < 0$
16. (c) both f_1 and f_2 are homothetic
17. (b) x
18. (c) not continuous at $x=0$
19. (a) $\log|(x(x-2))/(x-1)^2|$ + constant
20. (b) $1-14X(4/5)^{52}$
21. (b) $(5-2\sqrt{2})/2$
22. (d) divisible by 120 but not always divisible by 720.
23. (c) $p_1=p_2$ or $p_2=(3/4)p_1$
24. (c) In the (x,y) scatter diagram, all points lie on the curve $y=a+bx^2$, $a>0$, $b>0$.
25. (b) 168

26. (d) $f(1)$
27. (c) $\mu=n/2$ and $\sigma^2=n/4$
28. (d) Statements (a), (b) and (c) are all incorrect
29. (d) $|f(x)|$ is a decreasing function
30. (a) 81