

**Calculus III (Maths 201–DDB)**

1. (a) $7/2$ (b) $-\pi/4$ (c) $12/5$ (d) 1
2. (a) C (CT) (b) D (n TT)
(c) C ($\int$ T, or LCT with $\sum \frac{1}{n^{3/2}}$) (d) D (RT)
(e) C (RT) (f) D (LCT with $\sum \frac{1}{n\sqrt{\ln n}}$ & $\int$ T)
(g) C (LCT with $\sum \frac{1}{n \ln^2(1+n)}$ & $\int$ T) (h) D (LCT with $\sum \frac{1}{\sqrt{n}}$)
3. (a) CC ($\int$ T) (b) D (n TT) (c) AC (CT) (d) AC ($\sqrt[n]{}$ T)

Optional: (“C” means the series is positive only and C
AC would also be correct, if redundant, in those cases.)

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| 1. AC | 2. CC | 3. D | 4. C | 5. C | 6. CC |
| 7. C | 8. CC | 9. AC | 10. C | 11. C | 12. D |