

# MA166: Exam 3 Solutions

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## 1 Exam III (Spring 2016)

Here are the solutions to Exam III.

**Problem 1** (# 1, # ). Test the following series for convergence:

(I)  $\sum_{n=1}^{\infty} e^{-n};$

(II)  $\sum_{n=1}^{\infty} \frac{2^n}{n};$

(III)  $\sum_{n=1}^{\infty} \frac{3}{n^2}.$

*Solution.*



**Problem 2** (# 2, # ).

*Solution.*



**Problem 3** (# 3, # ).

*Solution.*



**Problem 4** (# 4, # ).

*Solution.*



**Problem 5** (# 5, # ).

*Solution.*



**Problem 6** (# 6, # ).

*Solution.*



**Problem 7** (# 7, # ).

*Solution.*



**Problem 8** (# 8, # ).

*Solution.*



**Problem 9** (# 9, # ).

*Solution.*



**Problem 10** (# 10, # ).

*Solution.*



**Problem 11** (# 11, # ).

*Solution.*



**Problem 12** (# 12, # ).

*Solution.*

