

# Mathematics for Political Science

## Day 3: Calculus I

### Exercise Solutions

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1.

1.  $-4$

2.  $-5$

3.  $1.6$

4.  $2$

2.

1.  $9$

2.  $3$

3.  $1$

3.

a.  $x^{-\frac{2}{3}}$

b.  $14$

c.  $3y^2 + 6y$

d.  $5x^4 + 3x^2 - 2x$

e.  $1 + 3y^2 + \frac{14}{y^3}$

f.  $2y + y^{-2} - 3y^{-4}$

g.  $\frac{12x^2 - 8x + 16}{x^4 - 8x^3 + 16x^2}$

h.  $e^{y^2 - 3y + 2}(2y - 3)$

i.  $\frac{2}{x}$

4.  $4(8(x^4 + 2) - 1) * 8 * 4x^3$