

## D1 数学 解答例

1

(1)  $S = |a|e^{-2a^2}$

(2)  $\frac{1}{2}e^{-\frac{1}{2}}$

2

(1)  $\frac{513}{625}$

(2) 5.6

3

(1)  $q = \sqrt{1 + \cos^2 t}$

(2)  $\cos\theta \frac{\cos 3t}{\sqrt{1 + \cos^2 t}}$

(3)  $S = \frac{1}{2}\sqrt{-\cos^2 3t + \cos^2 t + 1}$

(4)  $\frac{1}{6}\sqrt{4\sqrt{3} + 9}$

4

(1)  $\frac{10}{3}$

(2)  $-\frac{4}{n^3}(2k^2 - 2k + 1) + \frac{4}{n^2}(2k - 1) + \frac{2}{n}$

(3)  $-\frac{4}{3n^2} + \frac{10}{3}$

(4) 7

5

(1)  $\frac{7}{27}$

(2)  $\frac{329}{729}$

(3) 8