

Exam 1 Answers

1. (a) **FALSE**
(b) **FALSE**
(c) **TRUE**
(d) **TRUE**
(e) **TRUE**
2. (a) $f(x) = 1000x$ where x is the number of meters from the natural length
(b) 3.2 J
3. $1/\sqrt{2\pi}$
4. (a)
(b) $156800\pi x \, dx$ where $156800\pi dx$ is the force and x is the distance
(c) 1176000π J
5. (a) $9/2$
(b) $117\pi/5$
(c) $45\pi/2$
6. (a)
(b) $8y \, dy$
(c) 16
(d) $128\sqrt{2}/15$
7. (a) $\sqrt{x^2 + 4x} + C$
(b) $\sin(\ln x) + C$