

34. The lifetime of a machine part has a continuous distribution on the interval $(0, 40)$ with probability density function f , where $f(x)$ is proportional to $(10 + x)^{-2}$.

Calculate the probability that the lifetime of the machine part is less than 6.

- (A) 0.04
- (B) 0.15
- (C) 0.47
- (D) 0.53
- (E) 0.94