

MATH 30530 — INTRODUCTION TO PROBABILITY

QUIZ 6 DO-OVER, DUE FRIDAY, NOVEMBER 11

Name:

I choose a random real number between 0 and 2. Let X be the number that I choose.

(1) Write down the density function $f(x)$ of X . (Be sure to specify its value for all inputs in the domain $-\infty < x < \infty$).

(2) Write down the cumulative distribution function $F(x)$ of X . (Be sure to specify its value for all inputs in the domain $-\infty < x < \infty$.)

(3) For a a real number between 0 and 8, what is $P(X^3 \leq a)$?

(4) Write down the density function $g(x)$ of the random variable X^3 .