

Quiz #6

To compute the solutions, you can use the commands `pnorm` and `qnorm` in R. Please, write legibly and report the R command you use with all parameters. Please round your numerical solutions to 3 decimal digits.

(1)[5 Pts] Let  $X$  be a normal random variable with mean 5 and standard deviation 2. Calculate the following probabilities

- (a)  $P(X > 4)$ ;
- (b)  $P(|X - 5| \leq 2)$ ;

(2)[5 Pts] Determine the value of the constant  $c$  such that

- (a)  $P(0 \leq Z \leq c) = 0.360$ ;
- (b)  $P(|Z| \leq c) = 0.120$ ;