Equitable Equations: *The standard normal distribution*

Use R for all problems. Always include both code and output.

Problem 1

Compute the following in $N(0, 1)$.

(a) $P(Z < -0.6)$

(b) $P(Z > 1.3)$

(c) $P(-1.2 \leq Z \leq 2.1)$.

Problem 2

The speed of a car on cruise control has a normal distribution with mean $\mu = 72$ mph and standard deviation $\sigma = 1.1$ mph.

(a) Find the Z-score corresponding to a speed of 70 mph.

(b) Compute the probability that the car is traveling more than 70 mph at a random moment using the Z-score from part (a).

(c) Check your answer from part (b) using $N(72, 1.1^2)$.