

3.3-2. If Z is $N(0, 1)$, find

- a. $P(0 \leq Z \leq 0.78)$
- b. $P(-2.46 \leq Z \leq 0)$
- c. $P(-2.3 \leq Z \leq -0.65)$
- d. $P(|Z| > 1.93)$
- e. $P(Z < -1.26)$
- f. $P(|Z| > 1)$
- g. $P(|Z| > 2)$
- h. $P(|Z| > 3)$

3.3-5. If X is normally distributed with a mean of 6 and a variance of 25, find

- a. $P(6 \leq X \leq 14)$
- b. $P(4 \leq X \leq 14)$
- c. $P(-4 \leq X \leq 0)$
- d. $P(X > 15)$
- e. $P(|X - 6| < 5)$
- f. $P(|X - 6| < 10)$
- g. $P(|X - 6| < 15)$
- h. $P(|X - 6| < 12.4)$

3.3-6. If the moment-generating function of X is

$$M(t) = \exp(166t + 200t^2), \quad -\infty < t < \infty,$$

Find

- a. The mean of X
- b. The variance of X
- c. $P(170 < X < 200)$
- d. $P(148 \leq X \leq 172)$