

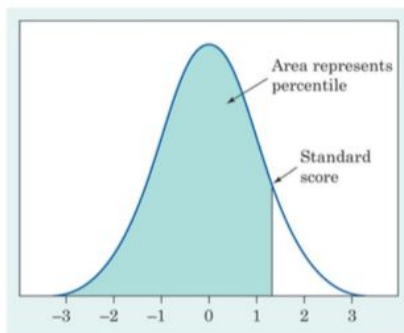
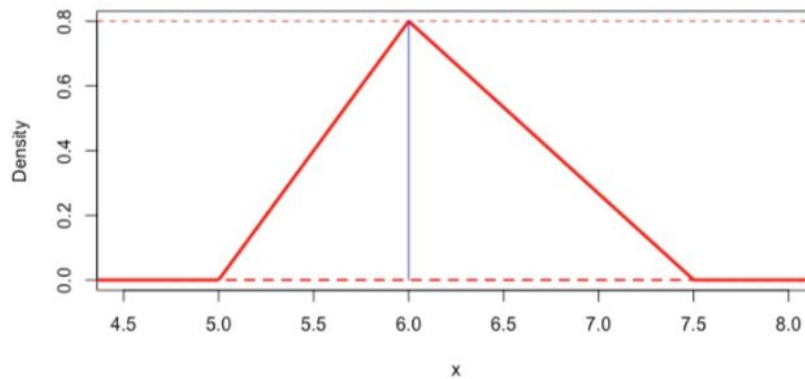


TABLE B Percentiles of the Normal distributions

Standard score	Percentile	Standard score	Percentile	Standard score	Percentile
-3.4	0.03	-1.1	13.57	1.2	88.49
-3.3	0.05	-1.0	15.87	1.3	90.32
-3.2	0.07	-0.9	18.41	1.4	91.92
-3.1	0.10	-0.8	21.19	1.5	93.32
-3.0	0.13	-0.7	24.20	1.6	94.52
-2.9	0.19	-0.6	27.42	1.7	95.54
-2.8	0.26	-0.5	30.85	1.8	96.41
-2.7	0.35	-0.4	34.46	1.9	97.13
-2.6	0.47	-0.3	38.21	2.0	97.73
-2.5	0.62	-0.2	42.07	2.1	98.21
-2.4	0.82	-0.1	46.02	2.2	98.61
-2.3	1.07	0.0	50.00	2.3	98.93
-2.2	1.39	0.1	53.98	2.4	99.18
-2.1	1.79	0.2	57.93	2.5	99.38
-2.0	2.27	0.3	61.79	2.6	99.53
-1.9	2.87	0.4	65.54	2.7	99.65
-1.8	3.59	0.5	69.15	2.8	99.74
-1.7	4.46	0.6	72.58	2.9	99.81
-1.6	5.48	0.7	75.80	3.0	99.87
-1.5	6.68	0.8	78.81	3.1	99.90
-1.4	8.08	0.9	81.59	3.2	99.93
-1.3	9.68	1.0	84.13	3.3	99.95
-1.2	11.51	1.1	86.43	3.4	99.97

1. Suppose we know that the distribution for United States female heights follows a normal curve, with $\mu = 65.5$ " and $\sigma = 2.5$ ". For a randomly selected US female, answer (a) – (f). You will get practice using the Empirical Rule in your WebAssign assignment. **For this assignment, base your answers on the use of the standard normal table.**
 - a) What is the probability the woman is between 64" and 67"?
 - b) What is the probability the woman is taller than 67"?
 - c) What is the probability the woman is shorter than 62"?
 - d) What is the probability the woman is taller than 62"?
 - e) What is the 21st percentile for women's heights?
 - f) What is the 90th percentile for women's heights?
2. Suppose the amount of time that it takes a professor to answer an email follows a uniform distribution from 0 to 24 hours.
 - a) Make a sketch of a proper probability distribution. Make sure to fully label your graph including the height of the curve.
 - b) Find the probability that it takes between 8 and 16 hours for the professor to answer an email.
3. Use the triangle in the graph below to answer (a) – (d).



- a) Show that this triangle distribution is a proper probability distribution?
- b) What is the probability that X is greater than 6?
- c) What is the probability that X is less than or equal to 6?
- d) What is the probability that X is between 5.5 and 7?