

Practice problems similar to Exercise G1:
 be sure to do a diagram (like Fig I & II) for each item!

Use 3-pt rule or Table B:

(I) If $Y \sim N(0,1)$ (a) $\Pr(Y < -1) = (100-68)/2 = 16\%$; (b) $\Pr(Y < 2) = 50+95/2 = 97.5\%$; (c) $\Pr(-2 < Y < 2) = 95\%$;
 (d) $\Pr(-1 < Y < 2) = \Pr(Y < 2) - \Pr(Y < -1) = 97.5 - 16 = 81.5\%$ (see Fig. I); (e) $\Pr(1 < Y < 2) = (95-68)/2 = 13.5\%$

(II) If $Y \sim N(0,1)$, find (a) $\Pr(Y < 1.5) = 93.32\%$; (b) $\Pr(Y > 2.5) = 100 - \Pr(Y < 2.5) = 100 - 99.38 = 0.62\%$;
 (c) $\Pr(1.5 < Y < 2.5) = 99.38 - 93.32 = 6.06\%$;

(IV) If $X \sim N(1,3)$, find (b) $\Pr(-3 < X < 3) = 65.6\%$; (a) $\Pr(0 < X < 3) = 37.8\%$

(V) If $X \sim N(8,2)$, find $\Pr(X \text{ is more than } 2 \text{ std deviations away from the mean}) = 100 - 95 = 5\%$ (see Fig. II)

(VI) If $X \sim N(8,2)$, find $\Pr(X \text{ is more than } 4 \text{ units away from the mean})$
 Same answer as (V) (4 units happen to be 2 std deviations)

