

MATH 140 FALL 2011 WORKSHEET V

Show all work. If an answer DNE, explain why it does not exist.

Note the following abbreviations:

On this worksheet let $X \sim \text{Nor}(x, \mu, \sigma)$

1. Suppose we have $X \sim \text{Nor}(x, 4, 3)$

- A. Find the approximate $\Pr(X > 2)$ four decimal place accuracy
- B. Find the approximate $\Pr(0 < X \leq 2)$ four decimal place accuracy
- C. Find the approximate $\Pr(-1 \leq X \leq -1)$ four decimal place accuracy
- D. Find the approximate $\Pr(-3 < X \leq 2)$ four decimal place accuracy
- E. Find $\Pr(X = \frac{1}{2})$
- F. Find $\Pr(X > 4)$

2. Suppose we have $X \sim \text{Nor}(x, 100, 15)$

- A. Find $\Pr(X > 100)$
- B. Find the approximate $\Pr(X > 108)$ four decimal place accuracy
- C. Find the approximate $\Pr(X > 115)$ four decimal place accuracy
- D. Find the approximate $\Pr(85 < X \leq 130)$ four decimal place accuracy
- E. Find the approximate $\Pr(92.5 \leq X \leq 145)$ four decimal place accuracy
- F. Find the approximate $\Pr(X \leq 55)$ four decimal place accuracy

3. Suppose we have $X \sim \text{Nor}(x, 100, 16)$

- A. Find $\Pr(X > 100)$
- B. Find the approximate $\Pr(X > 108)$ four decimal place accuracy
- C. Find the approximate $\Pr(X \leq 108)$ four decimal place accuracy
- D. Find the approximate $\Pr(X \leq 116)$ four decimal place accuracy
- E. Find the approximate $\Pr(92 \leq X \leq 132)$ four decimal place accuracy
- F. Find the approximate $\Pr(X \leq 104)$ four decimal place accuracy