

name: solution

1. Find the proportion of observations from a standard Normal distribution for the following (2 points each)

- (a)  $Z \leq -1.4$
- (b)  $Z \geq -1.4$
- (c)  $Z > 2.0$
- (d)  $-1.4 < Z < 2.0$

$$(a) P(Z \leq -1.4) = 0.0808$$

$$(b) P(Z \geq -1.4) = 1 - P(Z \leq -1.4) = 1 - 0.0808 = 0.9192$$

$$(c) P(Z > 2.0) = \cancel{P} 1 - P(Z \leq 2.0) = 1 - 0.9772 = 0.0228$$

$$\begin{aligned}(d) P(-1.4 < Z < 2.0) &= P(Z < 2.0) - P(Z \leq -1.4) \\ &= 0.9772 - 0.0808 \\ &= 0.8964\end{aligned}$$