

4.3.3

Let $Y \sim N(1400, 100)$ be the weight (gm) of a randomly selected Swedish male's brain.

R code:

```
> pnorm(1200,1400,100)
[1] 0.02275013
> pnorm(1325,1400,100)
[1] 0.2266274
> pnorm(1475,1400,100)
[1] 0.7733726
> pnorm(1500,1400,100)
[1] 0.8413447
> pnorm(1600,1400,100)
[1] 0.9772499
```

- (a) $\Pr\{Y \leq 1500\} = 0.841$
- (b) $\Pr\{1325 \leq Y \leq 1500\} = 0.841 - 0.227 = 0.614$
- (c) $\Pr\{Y \geq 1325\} = 1 - 0.227 = 0.773$
- (d) $\Pr\{Y \geq 1475\} = 1 - 0.773 = 0.227$
- (e) $\Pr\{1475 \leq Y \leq 1600\} = 0.977 - 0.773 = 0.204$
- (f) $\Pr\{1200 \leq Y \leq 1325\} = 0.227 - 0.023 = 0.204$

4.3.8

Let $Y \sim N(88, 7)$ be the yield (lb) of wheat from a randomly selected plot.

The 65th percentile for wheat is given in R by

```
> qnorm(0.65,88,7)
[1] 90.69724
```

The 35th percentile is given in R by

```
> qnorm(0.35,88,7)
[1] 85.30276
```

That is, $\Pr\{Y < 90.7\} = 0.65$ and $\Pr\{Y < 85.3\} = 0.35$.

4.4.2

The plots on the lower half of p. 137 help a lot. Histogram I is skewed right, and so will have plot (a). II looks "normal" and so will have plot (c). III is skewed left and so will have plot (b).