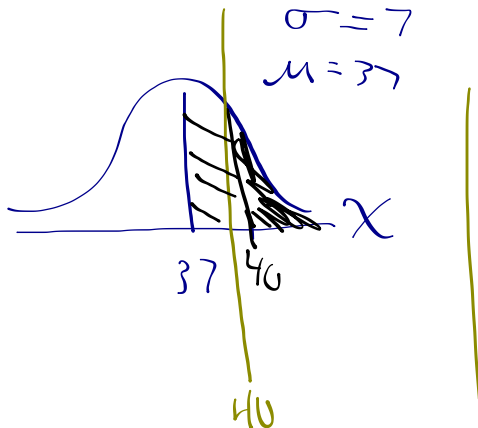# Use the ~~solutions~~ to check your HW

answers

Short - day.... you have 5 minutes

P. 307 #4

$x \sim N(37, 7^2)$

$\sigma = 7$

$\mu = 37$

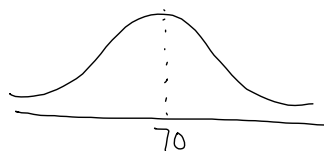$P(x > 40) =$

normal cdf $(40, 1000, 37, 7)$

$P(37 \leq x \leq 40 =$

normal cdf $(37, 40, 37, 7)$

37 40

x

40

Questions on the homework?

---

p. 307 ••• 1b

1c

$\mu = 70$ $\sigma = 4$

b) $P(68 \le X \le 72) =$

70

c) $P(X \le 65) =$

P. 307 .... 7b $\mu = 40$ $\sigma = 6$

(b)   In 52 weeks, how many would we expect to collect at least $45 ?

→ $P(x > 45) = .20232$••   20.2 %

→ 20.2% of 52 ≐ 10.1 weeks

<u>Answers to HW</u>

(p. 303 ...•)

5 a) 459 babies   b) 446 babies   9 a 41 days

6 a i 34.1 %   b 254 days

    ii 47.7 %
                                           c 213 days

   b i .136

      ii .159

      iii .0228

      iv .841

(p. 307)

① a .341
   b .383
   c .106

④ a .334
   b .166

⑦ a i .904
      ii .0912

   b ≈ 11 weeks

Pick up the Warm Up

WARM UP + CLASS WORK

Chapter 1 test scores from Mrs. Gallas's first-hour class follow an approximately Normal distribution with a mean of 81 and standard deviation of 6.

a) Sketch the Normal curve that approximates the distribution of Chapter 1 test scores. Label appropriately.

b) What percent of the scores are between 65 and 78? (show appropriate notation)

c) What percent of the scores are ~~between are~~ greater than 76?

d) If there are 50 students in the class, approximately how many students have a score within one standard deviation of the mean ?

Think backwards

If $P(x \geq k) = P$, then $P(x \leq k) = 1 - P$

---

a bunch of values
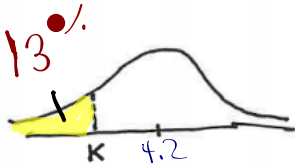
Think backwards

$1-P$ P
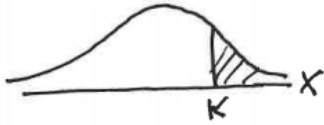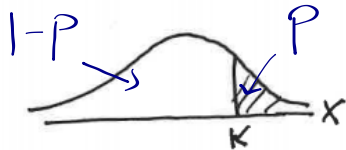
$\int$ quantile

If $P(x \geq k) = P$, then $P(x \leq k) = 1 - P$

example 1 $x \sim N(4.2, 0.6^2)$

Given $P(x < K) = .13$

so $K = invNorm\left(\underset{left}{area\ to}, \underset{\mu}{mean}, \underset{\sigma}{std. \atop Dev}\right)$

13%

K   4.2

Find K

$P(x < K) = 0.13$

$= inv\ normal(.13, 4.2, 0.6)$

$= 3.52$

---

example 2

$N(150, 20^2)$ Find K

.13   0.3

150   K
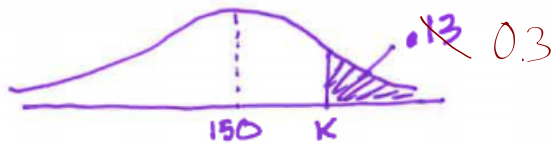
$P(x \geq K) = 0.30$

so

K $= 160.5$
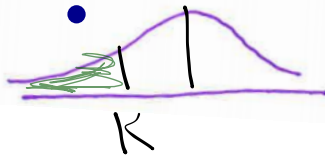 160.48

K =

$inv\ Norm(0.7, 150, 20)$

160 blueberries

example 3   suppose $x \sim N(20, 3^2)$

Illustrate each of the situations below with a sketch

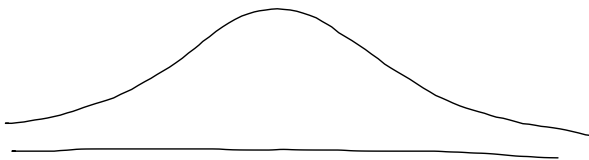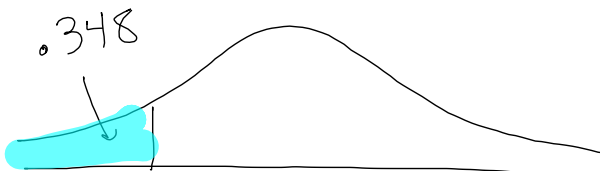a) $P(x < k) = .348$ b) $P(x \le k) = 0.9$ c) $P(x \ge k) = 0.8$

a) $P(X \le k) = .348$

$k = \text{invNorm}($ $)$

.348

b) $P(X \leq K) = 0.9$
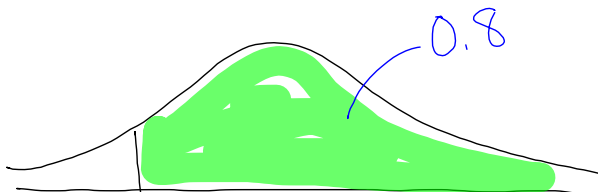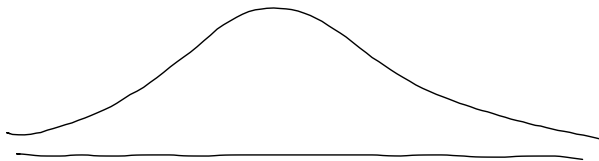
$K =$

0.9

c) $P(X \geq K) = 0.8$

so $K =$

0.8

next week there will be a small quiz on
Normal Distribution
(Not a large Test)   *ON mon OR Tuesday*

on Monday, we'll start a 9 day unit on
Statistical Applications

See your test
(finally)

Assignment: **Ch 10 Packet**
•

p.307....9
p.309......2, 5, 6

diagrams
and good
notation
a must!