1a/ 0.159 (3sf)

b/ 0.149 (3sf)

c/ 0.340 (3sf)

2a/ 0.117 (3sf)

b/ 0.117 (3sf)

c/ 0.776 (3sf)

3/ 73.37861966 (Inverse Normal)
73 minutes (nearest minute)

4/ standard normal distribution $\sigma = 1$ $\mu = 0$

$$z = \frac{x - \mu}{\sigma}$$

From inverse normal : $z = -1.281551638$

$$-1.281551638 = \frac{150 - 164}{\sigma}$$

$$\sigma = \underline{10.9} \text{ (3sf) cm}$$

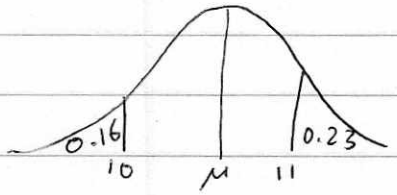
5/ $z = -0.524400438 2$

$$-0.524400438 2 = \frac{26 - \mu}{2.8}$$

$$-1.468321227 = 26 - \mu$$

$$\mu = \underline{27.5} \text{ (3sf)}$$

6)



$X = 11 \quad Z = 0.7388466131$

$X = 10 \quad Z = -0.9944571159$

$0.7388466131 = \frac{11 - \mu}{\sigma} \qquad -0.9944571159 = \frac{10 - \mu}{\sigma}$

$0.7388466131\sigma = 11 - \mu \qquad -0.9944571159\sigma = 10 - \mu$

$\mu = 11 - 0.7388466131\sigma \qquad \mu = 10 + 0.9944571159\sigma$

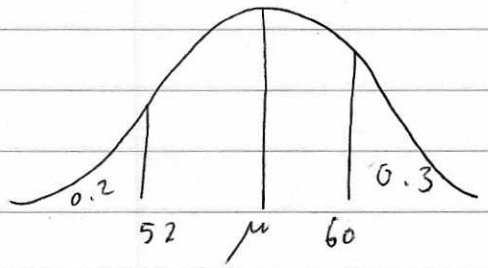
$11 - 0.7388466131\sigma = 10 + 0.9944571159\sigma$

$1 = 1.733303729\sigma$

$\sigma = \underline{0.577}$ (3sf) seconds

$\mu = \underline{10.6}$ (3sf) seconds

7/



$X = 52 \quad z = -0.841620847$

$X = 60 \quad z = 0.524400\,4382$

$$"-0.842" = \frac{52-\mu}{\sigma} \qquad "0.524" = \frac{60-\mu}{\sigma}$$

$$"-0.842"\sigma = 52-\mu \qquad "0.524"\sigma = 60-\mu$$

$$\mu = 52 + "0.842"\sigma \qquad \mu = 60 - "0.524"\sigma$$

$$52 + "0.842"\sigma = 60 - "0.524"\sigma$$

$$1.366\sigma = 8$$

$$\sigma = \underline{\underline{5.86}} \quad 3sf$$

$$\mu = 52 + "0.842"("5.86")$$

$$= \underline{\underline{56.9}} \quad 3sf$$