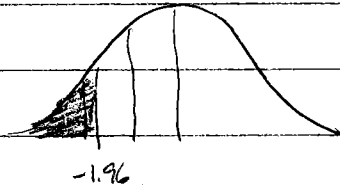


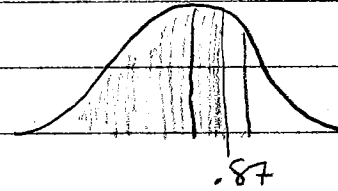
Review - Ch. 7

①



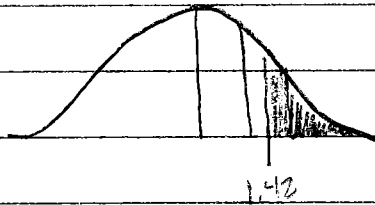
$$\boxed{.0250}$$

②



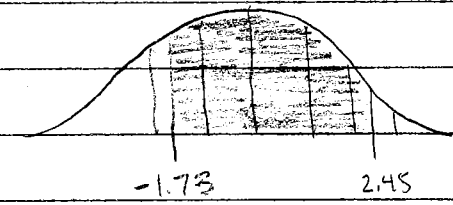
$$\boxed{.8078}$$

③



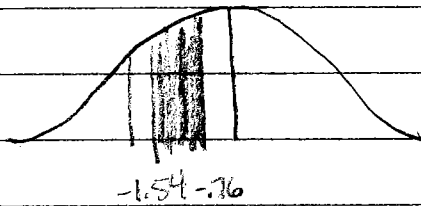
$$1 - .9222 = \boxed{.0778}$$

④



$$.9929 - .0418 = \boxed{.9511}$$

⑤



$$.2236 - .0618 = \boxed{.1618}$$

⑥ .4370 on z-chart corresponds to

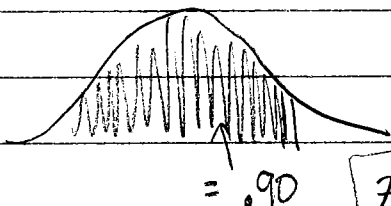
$$\boxed{z = -.16}$$

⑦

right of .4808 = left of $-.4808$

left of $-.4808$ corresponds to $\boxed{z = 1.05}$

⑧



$$= .90 \quad \boxed{z = 1.28}$$

⑨

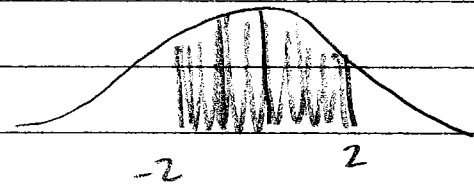
$$\begin{aligned} z &= \frac{x - \mu}{\sigma} \\ &= \frac{19 - 24}{3} \\ &= \boxed{-1.67} \end{aligned}$$

⑩

$$P(70 < X < 130)$$

$$z(70) = \frac{70 - 100}{15} = -2$$

$$z(130) = \frac{130 - 100}{15} = 2$$



$$.9772 - .0228 = .9544$$

$$\boxed{95.44\%}$$

(11) $P(70 < X < 130) = \boxed{95.44\%}$

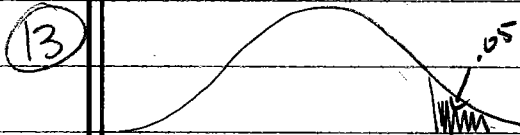


$$z = 1.28$$

$$X = z\sigma + \mu$$

$$= 1.28(17.2) + 137$$

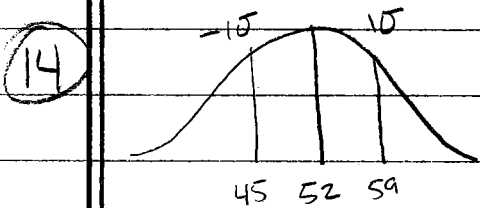
$$= \boxed{159.016}$$



$$z = 1.65$$

$$X = 1.65(.76) + 5.6$$

$$= \boxed{6.954 \text{ min}}$$



(a) 68%

(b) $z = \frac{40 - 52}{7}$

$$= -1.714$$

$$\boxed{4.36\%}$$

(c) $z = \frac{60 - 52}{7}$
 $= 1.143$

$$1 - .8729 = .1271$$

$$\boxed{12.71\%}$$

(15) (a) $.267\%$

(b) 11.51%

(c) 80.54%

(16) (a) $z = \frac{156 - 1050}{150}$
 $= -1.96$
 $\boxed{2.50\%}$

(b) $z(.025) = -1.96$

$$X = -1.96(150) + 1050$$

$$= \boxed{756}$$

(c) $z(.20) = -.84$

$$X = -.84(150) + 1050$$

$$= \boxed{924}$$

$$45 < X < 59$$

$$-1.8 < z < 1$$

Review - Ch. 7 Stats

16) (a) 4th percentile = z-score of .04
= -1.75

20th percentile = z-score of .20
= -.84

$$X = -1.75(150) + 1050$$
$$= \boxed{787.5}$$

$$X = -.84(150) + 1050$$
$$= \boxed{924}$$

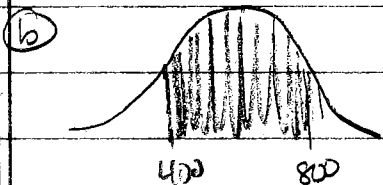
(d) 97th percentile = z of .97
= 1.88

$$X = 1.88(150) + 1050$$
$$= \boxed{1332}$$

17) (a) $z = \frac{800 - 612}{103}$
= 1.83

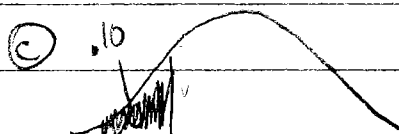


$$1 - .9664 = .0336$$
$$\boxed{3.36\%}$$



$$z(400) = \frac{400 - 612}{103}$$
$$= -2.06$$

$$.9664 - .0197$$
$$= .9467$$
$$\boxed{94.67\%}$$



$$z(.10) = -1.28$$

$$X = -1.28(103) + 612$$
$$= \boxed{480.16}$$

18) a) $z = \frac{250 - 264}{16}$

$= -.885$

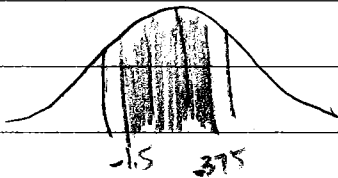
$.1894$
 18.94%

b) $z = \frac{240 - 264}{16}$

$= -1.5$

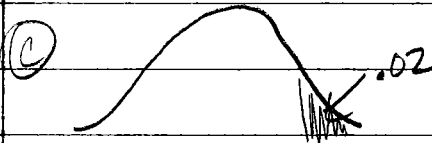
$z = \frac{270 - 264}{16}$

$= .375$



$.6480 - .0668 = .5812$

58.12%

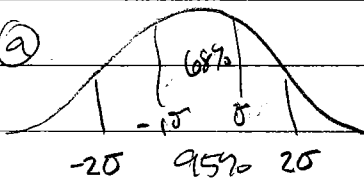


$z(.98) = 2.05$

$X = 2.05(16) + 264$

$= 296.8$

19) a)



$X = 2(16.5) + 12$
 $= 45\%$

$X = -2(16.5) + 12$
 $= -21\%$

95% $-21\% < X < 45\%$

b) $z = \frac{0 - 12}{16.5}$

$= -.73$

$\Rightarrow 23.27\%$

$z = \frac{0 - 12}{16.5} = 23.27\%$

c) $z = \frac{25 - 12}{16.5}$

$= .79 \Rightarrow .7852$

$1 - .7852$
 21.48%

$z = \frac{25 - 12}{16.5} = .79$

21.48%