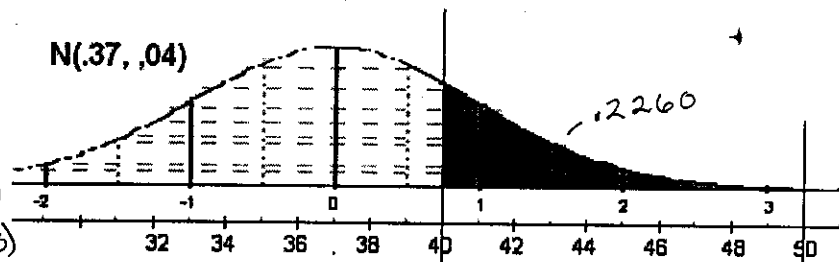


Normal HW
 P. 80, 3.11, 3.12
 $N(.37, .04)$

$P(X > .40)$:
 $z = \frac{.40 - .37}{\sqrt{.04}} = \frac{.03}{.2} = .15$
 Area below ($z = .15$)
 $=$ Area below ($x = .40$)
 $= .7734$
 Area above ($x = .40$)
 $= 1 - .7734 = .2266$

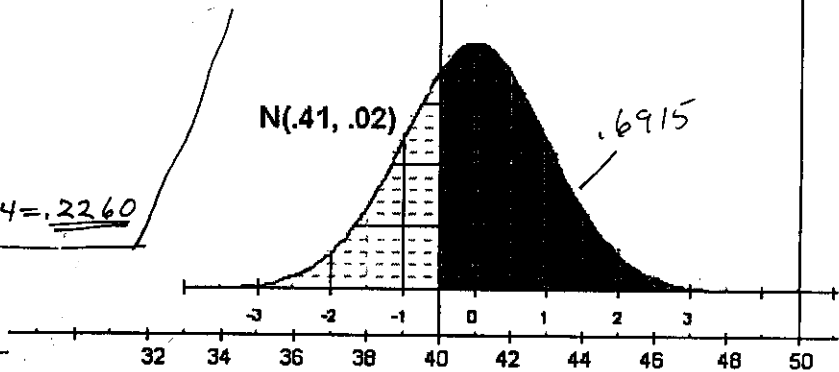
$P(X < .50)$
 $z = \frac{.50 - .37}{\sqrt{.04}} = \frac{.13}{.2} = .65$
 Area below ($z = .65$)
 $=$ Area below ($x = .50$)
 $= .9994$



Area between ($x = .40$ and $x = .50$)
 $= P(.40 \leq X \leq .50) = .9994 - .7734 = .2260$

$P(X > .40)$ $N(.41, .02)$
 $z = \frac{.40 - .41}{\sqrt{.02}} = \frac{-.01}{\sqrt{.02}} = -.5$
 Area below ($z = -.5$)
 $=$ Area below ($x = .40$)
 $= .3085$

$P(X < .50)$
 $z = \frac{.50 - .41}{\sqrt{.02}} = \frac{.09}{\sqrt{.02}} = 4.5$
 Area below ($z = 4.5$) $=$ Almost 1



Area above ($x = .40$) $= P(X > .40) = 1 - .3085 = .6915$, Area between .40 and .50 $= .6915$ (almost)

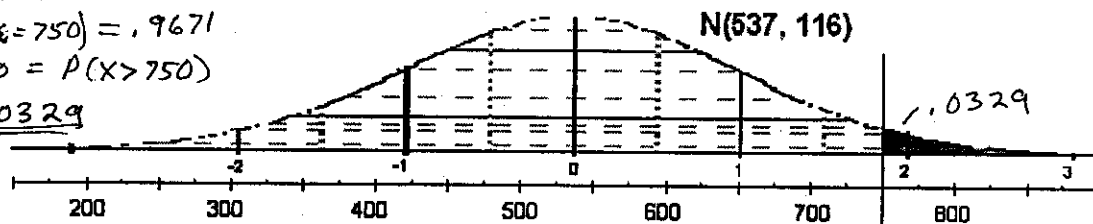
P. 87, 3.46

$P(X > 750)$ in $N(537, 116)$:

$z = \frac{750 - 537}{\sqrt{116}} = \frac{213}{\sqrt{116}} = 1.84$

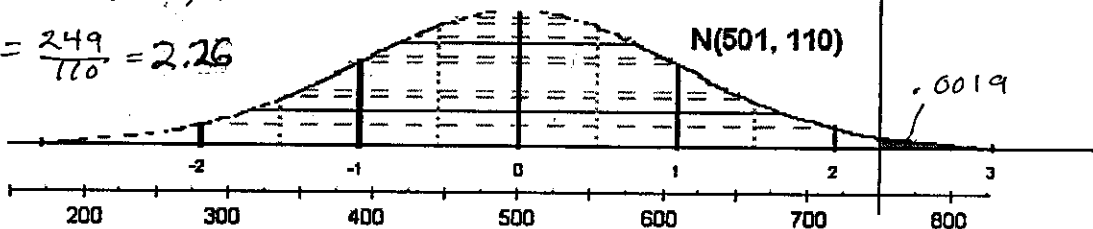
About 3.3% of boys score 750 or above

Area below $z = 1.84 = P(Z < 1.84) = .9671$
 $=$ Area below ($x = 750$) $= .9671$
 Area above 750 $= P(X > 750)$
 $= 1 - .9671 = .0329$



$P(X > 750)$ in $N(501, 110)$

$z = \frac{750 - 501}{\sqrt{110}} = \frac{249}{\sqrt{110}} = 2.26$



Area below ($z = 2.26$) $= .9981$
 Area below ($x = 750$) $= P(X < 750) = .9981$
 Area above ($x = 750$) $= P(X > 750) = 1 - .9981 = .0119$

About 1.2% of girls score 750 or above