A Uf_cj 7\U]bgk]h 5dd`]Wh]cbg&\$%#8\$%

<u>Ghuhighiwu Gwybw (*) (5 Gywicb \$\$%</u>

7 ci fgY Ci h]bY

=bghfi Wacf`=bZcfa Uhjcb

=bghfiWacf	<u>8Uj]X'GhubZcfX</u>
C ℤ҈ I ₩	K G7 &%
9a Uj`	ghubZcfX4 ik c'WU
D\cbY)%!**%'*&YIh,'*&
CZZ]W [™] <cifg< th=""><th>Hi YžK YX`(.\$\$!(.&)/Hi YžK YX`).&)!).))/</th></cifg<>	Hi YžK YX`(.\$\$!(.&)/Hi YžK YX`).&)!).))/

7 ci fgY = bZcfa Uhjcb

7 ci fgY'8 Yg/f/]dh]cb 7 cbh]bi ci gh]a Y A Uf_cj WU]bgž Udd`]Wh]cbg hc d\UgY!hmdY X]ghf]Vi h]cbgž A Uf_cj WU]b'A cbhY'7 UF cig]a i `Uh]cb'UbX'ei Yi]b['h\Ycfm'

- **DfYfYei]gYg** <u>GG'*)+5#6</u>5 a]b]aia aUf_cZ*\$i]bGtUt]gt]W1 GV[YbWg'*)+5#6"5 a]b]aia aUf_cZ*\$i]bGtUt]gt]W1 GV[YbWg'*)+5#6"
- 5bhjfYei]ghYg
 H\Y Zcfa Yf GhUjgh]W/ GVJYbWg (*) &5 #6ž Zcfa Yf GhUjgh]W/ GVJYbWg (*) &5 #6ž

 Zcfa Yf GhUjgh]W/ GVJYbWg(*) +5 #6 "LbX Zcfa Yf GhUjgh]W/ GVJYbWg (+' +5 #6"
- Df Yz7 c! f Yei]g]hYgI b`Ygg mci \Uj Y Y]h.Yf h.Y fYei]g]hYg Zcf h.]g Wéi fgY cf k f]hhYb gd/WJU dYfa]gg]cbK Ufb]b[Zfca mci f 8 YUb hc Ybfc``]b]hž mci a UmVY fYa cj YX Zfca h.]g Wéi fgY UbX]hk]`` VYXY`YhYX Zfca mci f fYWéfX" Mci WUb VY XYfY[]ghYfYX Uh Ubmh]a Y Yj Yb UZhYf k f]h]b[h.Y Z]bU YI Ua " H.]g XYVJg]cb a UmbchVY UddYU YX" Mci k]`` fYWY]j Y bc UX i gha Ybhhc mci f ZYYg]b h.Y Yj Ybhh.Uhmci UfY XfcddYX Zfca U Véi fgY Zcf ZU]`]b[hc \Uj Y h.YbYWggUfmdfYfYei]g]hYg
- @YMbifY'< cifg A cb2HiY2K YX'(.'\$`DA !).'\$`DA `K G7`&(\$/

6cc_`=bZcfa Uhjcb

HYI h6cc_fgt

=blfcXi Vbjcb hc DfcVUV]`]hmA cXY gž %bh YX]hjcbžVmG\Y`Xcb A "F cgg f5 WbXYa]WDfYggL

7 ci fgY[·]C V′YWbjj Yg

: c``ck]b[U Vf]YZ fYj]Yk cZ X]gWYHY Ha Y A Uf_cj WU]bgž h]g Wi fgY dfcj]XYg U hcfci [\ HYUha YbhcZ h\Y h\Ycfm UbX Udd`]WUjcb cZ Wibh]bi ci g Ha Y A Uf_cj WU]bgž]bWi X]b[d\UgY!hmdY X]gH]Vi Hcbd' Ghi XYbhgk]`` VYWia Y Zua]`]Uf k]h\ A Uf_cj 7\Ujb A cbHY 7 Uf c a Yh\cXg' 5 gi VgHubh]U dUfhcZ h\Y Wi fgY dYfHU]bg hc h\Y Udd`]WH]cb cZ Vch\ X]gWYHY!Ha Y UbX Wibh]bi ci g Ha Y A Uf_cj WU]bg hc a cXY` ei Yi Yg' =b UXX]h]cb hc h\Y h\YcfmcZ ei Yi Ygž ghi XYbhg k]`` [U]b]bg][\hfY[UfX]b[\ck Wibh]bi ci g Ha C Z Uch\ X]gWYHY!Ha Y UbX Wibh]bi ci g Ha Y A Uf_cj WU]bg hc a cXY` ei Yi Yg' =b UXX]h]cb hc h\Y h\YcfmcZ ei Yi Ygž ghi XYbhg k]`` [U]b]bg][\hfY[UfX]b[\ck Wibh]bi ci g Ha Y A Uf_cj WU]bg hc a cXY` ei Yi Yg' =b UXX]h]cb hc h\Y h\YcfmcZ ei Yi Ygž ghi XYbhg k]`` [U]b]bg][\hfY[UfX]b[\ck Wibh]bi ci g Ha Y A Uf_cj WU]bg hc a Ub]ZYghg]hgY`Z]b g]b[`Y!gYfj Yf UbX a i `h]!gYfj Yf ei Yi Yg i bXYf Z]fgHWida Yž Z]fgHgYfj YX fi 7: GŁ UbX df]cf]hmUffUb[Ya Ybhg' B Yhk cf_g cZ ei Yi Yg k]`` VY Wibg]XYfYX Ug k Y``'' H\Y fc`Y cZ cWWdUbWhUbX j Uf]UV]`]hmcb h\Y XY[fYY cZ Wibh[Ygh]cb k]`` VY UbUmgYXž Ug k Y`` Ug h\Y] a dUMig cZ dcc`]b[cZ gYfj]W fYgci fWg UbX df]cf]hmei Yi Y]b[UffUb[Ya Ybhg''A ch]j U]b[`Yl Lia d`Yg'k]```YYXfU b Zfca `W``WbhfYg'UbX`\YU'h\ WfY`Udd`]Wh]cbg' FYj]Yk cZX]gWYHYHJaYAUf_cjWU]bgf7\UdHYf(Lžgffcb[UbXkYU_WdbjYf[YbW)f&kYY_gL

A Uf_cj WUJb A cbhY 7 Uf c a Yh\cXgfbyWbjcb ("- UbX gi dd Ya Ybhog ff%k YY_Ł

7 cbh]bi ci g'h]a Y A Uf_cj WU]bg fl7 \UdhYf ** kž]bWi X]b[D\UgY!hmdY X]gff]Vi h]cbg'f) k YY_gL

H\YcfmUbX'Udd`]WUf]cb'cZ'ei Yi Ygif7\UdHYf', 'UbX'gi dd`Ya YbHU 'bcHYgL'f) 'k YY_gL

5ggYgga Ybh

5gg][ba YbhgUbX#cf E i]mYg

H\YfY k]``VY Zci f cf Zj Y Ugg][ba Ybhg Uhfci [\`mhk c!k YY_]bhYfj Ugž k cfh, gYj Yb dYfWbh cZ h\Y Z]bU [fUXY" =b UXX]h]cbž h\YfY k]``VY hk c WUgg dUfh]V]dUh]cb Waa dcbYbhg' :]fghnž h\YfY k]``VY \UbXgl cb gYgg]cbg]b h\Y K YghYfb 5 VhJj Y @YUfb]b[GdUW fK 5 @Ghž I 77 **ž cb Zci f XUhYg hc VY XYhYfa]bYX" K 5 @G'gYgg]cbg'UfY'k cfh.'UhchU`cZZci f'dYfWbhcZ'h\Y'Z]bU`[fUXY"

GYWebX`mžih\Y'WUggYgik]``VY`fibik]h\Ub'UMjj Y!dUfjVjdUf]cb'WeadcbYbhkcfh\Zcif'dYfWbhUgikY`"

Department of Statistical and Actuarial Sciences. University of Western Ontario Room 262 Western Science Centre. Phone: 519-661-3607. Fax: 519-661-3813

ei Ygh]cbg k]`` fYW]j Y \UZh\Y dUfh]V]dUh]cb a Uf_g cZcbY Ubgk Yf]b[&) ei Ygh]cbg' 9j YfmcbY]g VfYX]hYX k]h\ % Wzbhf]Vi h]cbž gc h\Uh h\Y `c[Uf]h\a WVW`Uh]cbg k]`` VY bcb!bY[Uh]j Y j Ui Yg'Ł'' B6 A 9F 9@M 5 HH9B8 \pm ; '7@5 GG9G'8C 9G'BC H'7 CBGH \pm H H9 D5 F H=7 \pm D5 H=CB°

K YghYfb 5XUdhjj Y'@YUfb]b[GdUWffK 5@GLi ghzFcca 1 77 **

H\YfY k]``VY Zci f K 5@G gYgg]cbg Uhfci [\`ma cbh\`m]bh/fj Ug Zfca GYdh/a VYf h\fci [\ 8 YWa VYf" Mci f`UMjj Y`dfYgYbW`]gfYei]fYX`hc`h\Y`a Uf_`Zcf`YUN\gYgg]cb`fZci f`dYfWbh]b`hchU'z"

8YdUfha YbhDc`]Minch A]ggYX 7 ci fgYF Yei]fYa YbhgUbX Ghi XYbh < YUH UbX K Y`bYgg

=Z nci UfY i bUVY hc a YYhU Wei fgY fYei]fYa YbhXi Y hc]``bYgg cf ch\Yf gYf]ci g WyfWa gHubWgž nci a i gh dfcj]XY j U]X a YX]Wi cf ch\Yf gi ddcff]b[XcWa YbHu]cb hc nci f 8 Yubfig cZ]W Ug gccb Ug dcgg]V Yž UbX WebHuMi nci f]bg/fi Wicf]a a YX]UhY'm' =Z UWeta a cXU-jcb]g Uddfcj YX Vm nci f 8 Yubfig cZ]Wž nci f]bg/fi Wicf k]`` VY bch]Z]YXž h\Yb]h]g nci f fYgdcbg]V]`]hm hc a U_Y UhYfbU+jj Y UffUb[Ya Ybhg k]h\ nci f]bg/fi Wicf k]`` VY bch]Z]YXž h\Yb]h]g nci f fYgdcbg]V]`]hm hc a U_Y UhYfbU+jj Y UffUb[Ya Ybhg k]h\ nci f]bg/fi Wicf k]`` VY bch]Z]YXž h\Yb]h]g nci f fYgdcbg]V]`]hm hc a U_Y UhYfbU+jj Y UffUb[Ya Ybhg k]h\ nci f]bg/fi Wicf k]`` VY bch]Z]YXž h\Yb]h]g nci f fYgdcbg]V]`]hm hc a U_Y UhYfbU+jj Y UffUb[Ya Ybhg k]h\ nci f]bg/fi Wicf k]`` VY bch]Z]YXž h\Yb]h]g nci f fYgdcbg]V]`]hm hc a U_Y UhYfbU+jj Y UffUb[Ya Ybhg k]h\ nci f]bg/fi Wicf k]`` VY bch]Z]YXž h\Yb]h]g nci f fYgdcbg]V]`]hm hc a U_Y UhYfbU+jj Y UffUb[Ya Ybhg k]h\ nci f]bg/fi Wicf k]`` VY bch]Z]YXž h\Yb]h]g nci f fYgdcbg]V]`]hm hc a U_Y UhYfbU+jj Y UffUb[Ya Ybhg k]h\ nci f]bg/fi Wicf k]`` VY bch]Z]YXž h\Yb]h]g nci f fYgdcbg]V]`]hm hc a U_Y UhYfbU+jj Y UffUb[Ya Ybhg k]h\ nci f]bg/fi Wicf k]`` VY bch]Z]YXž h\Yb]h]g nci f fYgdcbg]V]`]hm hc a U_Y UhYfbU+jj Y UffUb[Ya Ybhg k]h\ nci f]bg/fi Wicf k]`` VY bch]Z]YXž h\Yb]h]g nci f fYgdcbg]V]`]hm hc a U_Y UhYfbU+jj]g]h]b[Ub cZI Wia a cXU+jcb Xi Y hc]``bYggž g\ci `X i gY h\Y Gh XYbhA YX]WI 7 Yff]Z]WihY k \Yb j]g]h]b[Ub cZI Wia di g a YX]WI ZMV] m'i H\Y Zcfa Wib VY Zci bX Uh \hmd.#k k k "ghug'i k c'W#a YX]WIZcfa "dXZ" Cfž fYei Ygh U F YWefXfij F YYUgY : cfa 'flcWhYX]b'h\Y'8 YUbfijCZ]WEZcfi]g]hg/hc Gh XYbh< YUh\GYfj]Wg' ei Ygh]cbgfY[UfX]b['UWvta a cXUh]cb"

Gi ddcfh GYfj]VVg @YUfb]b[!g_]``g Vidi bgY``cfg Uh IkY Ghi XYbh 8 Yj Y`cda Ybh 7 YbfY fG8 7 Ł f<u>khtd.#k k k "gXVI k c"VU</u>Ł UfY fYUXmhc \Y`d nci]a dfcj Y nci f `YUfb]b[g_]``g" H\YmcZZYf dfYgYbfUf]cbg cb ghfUh'[]Yg Zcf]a dfcj]b[h]a Y a UbU[Ya Ybhža i `h]d`Y!Vkc]W YI Ua dfYdUfUf]cb#k f]h]b[ž h/I hVcc_ fYUX]b[ž UbX a cfY" =bX]j]Xi U gi ddcfh]g cZZYfYX h\fci [\ci h h\Y : U`#K]bh/f h/fa g]b h\Y Xfcd!]b @YUfb]b[<Y`d 7 YbffYžUbX`mYUf!fci bX`h\fci [\`]bX]j]Xi U 'Vki bgY``]b["