TASK 2:

#1. TOTAL RATINGS = 16 + 15 + 15 = 46

A. % agree = $^{23}/_{46}$ = **.50**

B. BENNETT et al: $\frac{3(.5)-1}{3-1}$ = **.25**

C. SCOTTS pi: $P_r(a) = .5$

$P_r(e)$: $\left(\frac{16+13}{92}\right)^2 + \left(\frac{15+19}{92}\right)^2 + \left(\frac{14+15}{92}\right)^2$

$= .335$

$\frac{.5 - .335}{1 - .335}$ = **.248**

D. COHEN'S kappa

$P = {}^{15}/_{25} = .6$

$P_e = ({}^{12}/_{25})({}^{8}/_{25}) + ({}^{13}/_{25})({}^{17}/_{25}) = .5072$

$\kappa = \frac{.6 - .5072}{1 - .5072}$ = **.188**

TASK 2

#2

A. % agree = $33/51 = .647 = \boxed{64.7\%}$

B. BENNETT et al S: $\frac{(3)(.647)-1}{3-1} = \boxed{.471}$

C. SCOTT π: $P_r(a) = .647$

$P_r(e) = \left(\frac{17+17}{102}\right)^2 + \left(\frac{17+18}{102}\right)^2 + \left(\frac{16+18}{102}\right)^2$

$= .334$

$\boxed{\pi = .47}$

D. $P_o = 22/28 = .786$

$P_e = (15/28)(15/28) + (13/28)(13/28) = .503$

$\kappa = \frac{.786 - .503}{1 - .503} = \boxed{.569}$

Task 2

#3

A. $22/28 = \boxed{78.6\%}$

B. $\dfrac{2\left(\frac{22}{28}\right) - 1}{2-1} = \boxed{.571}$

C. $P_r(a) = .786$

$P_r(e) = \left(\frac{15+15}{56}\right)^2 + \left(\frac{13+13}{56}\right)^2 = .503$

$\dfrac{.571 - .503}{1 - .503} = \boxed{.137}$

D. $\boxed{.569}$

TASK 2

#4

A. % agreement: measures proportion on the diagonal.

B. Bennett et al's:

If C is # categories:

$$\frac{2}{2C}\left[\frac{cp-1}{C-1}\right] = \frac{C - Dp - cp + 1}{(C-1)^2}$$

$$= \frac{1-p}{(C-1)^2} \geq 0$$

For all C, p. Except for perfect agreement, the assumption is that a score should be better when annotators have same % agreement but more categories to choose from.

C. The score is punished when an annotater confuses one category with another.

D. Same as Scott's Π.

TASK 2

#5. $P_1 = \frac{5}{56}$ $P_2 = \frac{22}{56}$ $P_3 = \frac{20}{56}$ $P_4 = \frac{9}{56}$

$= .089$ $= .393$ $= .357$ $.161$

$P_e = .316$

$P_o = \frac{1}{78(78-1)}(6^2+2^2+1^2+2^2+4^2+1^2+2^2+2^2+4^2$
$+1^2+6^2+1^2+1^2+5^2+2^2+1^2+6^2+1^2$
$+2^2+6^2+1^2)-78)$

$= .444$

$\kappa = \frac{P_o - P_e}{P_o - P_e} = \boxed{.187}$

TASK 2

#6

A.

r/c	1	2	3	n_{v_0}
1	8	3	2	13
2	3	8		11
3	2		8	10
n_{v_1}	13	11	10	34

$O_{11} = \frac{6}{2} + 2 + \frac{4}{2} = 8$

$O_{12} = 3/3 + 2/2 + 2/2 = 3 = O_{21}$

$O_{13} = 2/2 + 2/2 = 2 = O_{31}$

$O_{22} = 12/3 + 2 + 2 = 8$

$O_{23} = A = O_{32}$

$O_{33} = 2 + 2 + 12/3 = 8$

$$\alpha = 1 - \frac{3+2}{(1/2\,8)(13\cdot 11 + 13\cdot 10 + 11\cdot 10)}$$

$$\alpha = .6341$$

TASK 2

#6

C. KTA: k/v

k/v	1	2	3	n
1	6	4	1	11
2	4	3		7
3	1		5	6
n	11	7	6	24

$O_{11} = 2+2+2 = 6$

$O_{12} = 1+2+1 = 4 = O_{21}$

$O_{13} = 1 = O_{31}$

$O_{22} = 6/2 = 3$

$O_{23} = *$

$O_{33} = 2+6/2 = 5$

$$\alpha = 1 - \frac{4+1}{(1/20)(11.7+11.6+6.7)}$$

$$= \boxed{.1459}$$

TASK 2

#6

C

Cont.

K-B:

V/V	1	2	3	n
1	4	2	1	7
2	2	5		7
3	1		7	8
n	7	7	8	22

$O_{11} = 2+2 = 4$

$O_{12} = 1+1 = 2 = O_{21}$

$O_{13} = 1 = O_{31}$

$O_{23} = 1$

$O_{22} = 6_2 + 2 = 5$

$O_{33} = 2+2+3 = 7$

$$d = 1 - \frac{2+1}{(1/2 3)(7\cdot8 + 7\cdot8 + 7\cdot7)}$$

$$= \boxed{.571}$$

TASK 2

#6

C K-C

cont.

V/V'	1	2	3	n
1	7	2	2	
2	2	5		
3	2		5	
4	11	7	7	25

$O_{11} = 2+2+3 = 7$

$O_{12} = 1+1 = 2 = O_{21}$

$O_{13} = 1+1 = 2 = O_{31}$

$O_{22} = 3+2 = 5$

$O_{23} = \cancel{X}$

$O_{33} = 2+3 = 5$

$$\alpha = 1 - \frac{2+2}{\left(\frac{1}{23}\right)(77+77+49)}$$

$$= \boxed{547}$$

TASK 2

#6

C

cont

k-D

V/V'	1	2	3	n
1	5	2	2	9
2	2	5		7
3	2		3	5
n	9	7	5	21

$O_{11} = 3+2=5$

$O_{12} = 1+1=2=O_{21}$

$O_{13} = 2+1=2=O_{31}$

$O_{22} = 3+2=5$

$O_{23} = 1=O_{32}$

$O_{33} = 3$

$$d = 1 - \frac{2+2}{(1/20)(9.7+9.5+7.5)}$$

$= \boxed{.4211}$

TASK 2

#6 K-vitality:

C

Cont

A .175

B .063

C .087

D .193

Best/worst?

These scores measure agreeableness, not correctness.