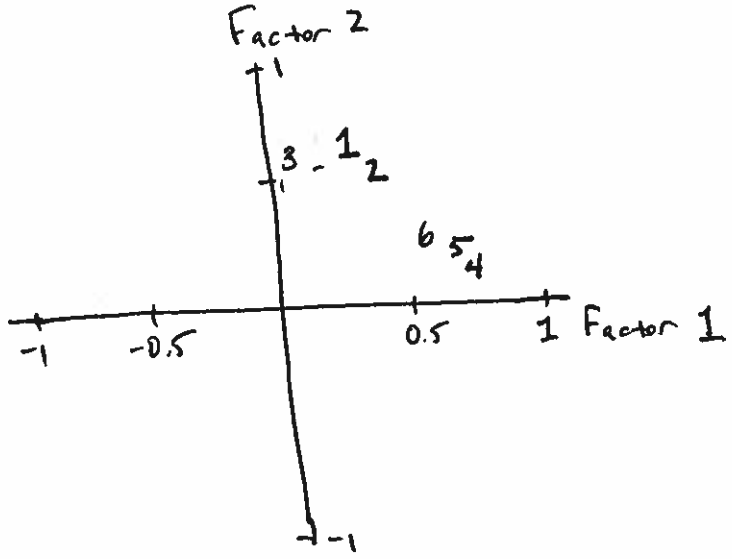
Psychometrics - HW 8 Solutions

#1

a)



(b) $\rho_{14} = \lambda_{11} \cdot \lambda_{41} + \lambda_{12} \cdot \lambda_{42}$

$= (.229)(0.771) + (.659)(.173)$

$= 0.29$

(c)/(d)

	Common variance	Unique Variance
1.	.487	.513
2.	.408	.592
3.	.357	.643
4.	.624	.376
5.	.565	.435
6.	.378	.622

#2

a) 3 factors

b) factor 1 : items 1, 2, 3, 4

factor 2 : items 5, 6, 7, 8, 9

factor 3 : items 10, 11, 12

c) Example: item 1

↳ common variance = $(0.007)^2 + (.608)^2 + (.024)^2$

= 0.370

Unique v. = 1 − common variance = 1 − 0.370 = 0.630.

This is very close to JASP output of 0.628.

(d) Factor 1 & 2, $\rho = 0.630$

(e) when reducing to 2 factors, RMSEA changes to 0.100, which is beyond the "acceptable" threshold of 0.08.