

**TABLE XII** Critical Values of  $T_L$  and  $T_U$  for the Wilcoxon Rank Sum Test: Independent Samples

*Test statistic is the rank sum associated with the smaller sample (if equal sample sizes, either rank sum can be used).*

**a.  $\alpha = .025$  one-tailed;  $\alpha = .05$  two-tailed**

$n_2 \backslash n_1$	3		4		5		6		7		8		9		10	
	$T_L$	$T_U$	$T_L$	$T_U$	$T_L$	$T_U$	$T_L$	$T_U$	$T_L$	$T_U$	$T_L$	$T_U$	$T_L$	$T_U$	$T_L$	$T_U$
<b>3</b>	5	16	6	18	6	21	7	23	7	26	8	28	8	31	9	33
<b>4</b>	6	18	11	25	12	28	12	32	13	35	14	38	15	41	16	44
<b>5</b>	6	21	12	28	18	37	19	41	20	45	21	49	22	53	24	56
<b>6</b>	7	23	12	32	19	41	26	52	28	56	29	61	31	65	32	70
<b>7</b>	7	26	13	35	20	45	28	56	37	68	39	73	41	78	43	83
<b>8</b>	8	28	14	38	21	49	29	61	39	73	49	87	51	93	54	98
<b>9</b>	8	31	15	41	22	53	31	65	41	78	51	93	63	108	66	114
<b>10</b>	9	33	16	44	24	56	32	70	43	83	54	98	66	114	79	131

**b.  $\alpha = .05$  one-tailed;  $\alpha = .10$  two-tailed**

$n_2 \backslash n_1$	3		4		5		6		7		8		9		10	
	$T_L$	$T_U$	$T_L$	$T_U$	$T_L$	$T_U$	$T_L$	$T_U$	$T_L$	$T_U$	$T_L$	$T_U$	$T_L$	$T_U$	$T_L$	$T_U$
<b>3</b>	6	15	7	17	7	20	8	22	9	24	9	27	10	29	11	31
<b>4</b>	7	17	12	24	13	27	14	30	15	33	16	36	17	39	18	42
<b>5</b>	7	20	13	27	19	36	20	40	22	43	24	46	25	50	26	54
<b>6</b>	8	22	14	30	20	40	28	50	30	54	32	58	33	63	35	67
<b>7</b>	9	24	15	33	22	43	30	54	39	66	41	71	43	76	46	80
<b>8</b>	9	27	16	36	24	46	32	58	41	71	52	84	54	90	57	95
<b>9</b>	10	29	17	39	25	50	33	63	43	76	54	90	66	105	69	111
<b>10</b>	11	31	18	42	26	54	35	67	46	80	57	95	69	111	83	127

Source: From F. Wilcoxon and R. A. Wilcoxon, "Some Rapid Approximate Statistical Procedures," 1964, 20-23.