

TABLE • VI Percentage Points f_{α,v_1,v_2} of the F Distribution (Continued)

8 of freedom for the numerator (v ₁) 9 If s 20 24 30 40 60 120 6022 6056 6106 6157 629 6235 6261 6287 6313 6339 99.30 99.40 99.42 99.43 99.46 99.46 99.47 99.49 99.49 27.35 27.23 27.05 26.87 26.69 26.00 26.50 26.41 99.49 99.49 10.16 14.55 14.30 14.02 </th <th></th> <th>8</th> <th>9989</th> <th>99.50</th> <th>26.13</th> <th>13.46</th> <th>9.05</th> <th>88.9</th> <th>5.65</th> <th>4.46</th> <th>4.31</th> <th>3.91</th> <th>3.60</th> <th>3.36</th> <th>3.17</th> <th>3.00</th> <th>2.87</th> <th>2.75</th> <th>2.65</th> <th>2.57</th> <th>2.59</th> <th>2.42</th> <th>2.36</th> <th>2.31</th> <th>2.26</th> <th>2.21</th> <th>2.17</th> <th>2.13</th> <th>2.10</th> <th>2.06</th> <th>2.03</th> <th>2.01</th> <th>1.80</th> <th>1.60</th> <th>1.38</th> <th>1.00</th>		8	9989	99.50	26.13	13.46	9.05	88.9	5.65	4.46	4.31	3.91	3.60	3.36	3.17	3.00	2.87	2.75	2.65	2.57	2.59	2.42	2.36	2.31	2.26	2.21	2.17	2.13	2.10	2.06	2.03	2.01	1.80	1.60	1.38	1.00
3 A S 6 7 8 9 10 12 15 20 24 30 40 60 340 S 6 7 8 9 10 12 15 20 24 30 40 60 3403 56.25 57.64 88.93 99.23 99.23 99.23 99.24 99.24 99.45 99.46 99.40 99.45 99.46 99.40 99.45 99.46 99.40 99.45 99.46 99.40 99.46 99.40		120	-	99.49	26.22	13.56	9.11	6.97	5.74	4.95	4.40	4.00	3.69	3.45	3.25	3.09	2.96	2.84	2.75	5.66	2.58	2.52	2.46	2.40	2.35	2.31	2.27	2.23	2.20	2.17	2.14	2.11	1.92	1.73	1.53	1.32
3 4 5 Feredom fort he numerator (p-) 3 4 5 6 7 8 9 10 12 15 20 24 30 40 36.3 5.6.3 5.2.4 8.8.2 8.9.2 6.0.5 6.157 6.0.9 6.2.4 9.4.2 9.9.4 <th></th> <th>09</th> <th></th> <th>99.48</th> <th>26.32</th> <th>13.65</th> <th>9.20</th> <th>7.06</th> <th>5.82</th> <th>5.03</th> <th>4.48</th> <th>4.08</th> <th>3.78</th> <th>3.54</th> <th>3.34</th> <th>3.18</th> <th>3.05</th> <th>2.93</th> <th>2.83</th> <th>2.75</th> <th>2.67</th> <th>2.61</th> <th>2.55</th> <th>2.50</th> <th>2.45</th> <th>2.40</th> <th>2.36</th> <th>2.33</th> <th>2.29</th> <th>2.26</th> <th>2.23</th> <th>2.21</th> <th>2.02</th> <th>1.84</th> <th>1.66</th> <th>1.47</th>		09		99.48	26.32	13.65	9.20	7.06	5.82	5.03	4.48	4.08	3.78	3.54	3.34	3.18	3.05	2.93	2.83	2.75	2.67	2.61	2.55	2.50	2.45	2.40	2.36	2.33	2.29	2.26	2.23	2.21	2.02	1.84	1.66	1.47
3 4 5 6 7 8 9 10 12 15 20 24 30 5403 5625 5764 5859 5928 5928 5928 6927 6056 6106 6157 620 623 6261 99,17 394,2 394,3 39,3 99,3 99,3 99,4 99,4 39,4 39,4 99,4 99,4 39,4 39,4 39,4 99,4 99,4 39,4		40		99.47	26.41	13.75	9.29	7.14	5.91	5.12	4.57	4.17	3.86	3.62	3.43	3.27	3.13	3.02	2.92	2.84	2.76	5.69	2.64	2.58	2.54	2.49	2.45	2.42	2.38	2.35	2.33	2.30	2.11	1.94	1.76	1.59
3 4 5 6 7 8 9 10 12 15 20 24 5-403 55.24 58.25 59.28 592.2 60.25 610.6 61.7 62.0 6235 9.40 99.43 99.44 99.44 99.42 99.45 99.4		30	ľ	_	26.50	13.84	9.38	7.23	5.99	5.20	4.65	4.25	3.94	3.70	3.51	3.35	3.21	3.10	3.00	2.92	2.84	2.78	2.72	2.67	2.62	2.58	2.54	2.50	2.47	2.44	2.41	2.39	2.20	2.03	1.86	1.70
3 4 5 6 7 8 9 10 12 15 20 99.13 50.25 57.64 58.95 59.28 69.27 60.56 61.06 61.77 62.09 99.17 99.25 99.39 99.37 99.39 99.40 99.42 99.43 99.40 29.46 12.87 12.71 27.49 27.35 27.53 27.05 26.69 16.69 18.87 18.72 11.46 11.29 11.07 10.67 10.46 10.29 10.16 10.05 98.9 99.40 99.42 99.43 99.40 99.42 99.43 99.40 99.42 99.43 99.40 99.42 99.43 99.40 99.42 99.43 99.40 99.42 99.43 99.40 99.43 99.43 99.40 99.44 99.43 99.40 99.44 99.43 99.40 99.42 99.43 99.40 99.49 99.40 99.40 99.40 99.40 99.40		24	-	99.46	26.00	13.93	9.47	7.31	6.07	5.28	4.73	4.33	4.02	3.78	3.59	3.43	3.29	3.18	3.08	3.00	2.92	2.86	2.80	2.75	2.70	5.66	2.62	2.58	2.55	2.52	2.49	2.47	2.29	2.12	1.95	1.79
3 4 5 6 7 8 9 10 12 15 34 5 6 7 8 9 10 12 15 99.17 99.25 5764 5859 5928 5982 6025 6106 6157 9 99.17 99.25 39.30 99.36 99.37 99.39 99.40 99.42 99.41 12,046 11.28 11.29 11.27 11.29 11.27 11.498 14.80 1		20			56.69	14.02	9.55	7.40	6.16	5.36	4.81	4.41	4.10	3.86	3.66	3.51	3.37	3.26	3.16	3.08	3.00	2.94	2.88	2.83	2.78	2.74	2.70	5.66	2.63	2.60	2.57	2.55	2.37	2.20	2.03	1.88
3 4 5 6 7 5403 5625 5764 5859 5928 58 99.17 99.25 99.30 99.33 99.36 59.36 59.36 59.36 59.36 59.36 59.36 59.36 59.36 59.36 59.36 59.36 58.36 56.1 16.69 15.98 15.52 15.21 14.98 11.06 11.38 10.07 10.06 11.04 10.06 11.09 10.09 10.18 10.09 10.18 10.09	or (v ₁)	15	-	99.43	26.87	14.20	9.72	7.56	6.31	5.52	4.96	4.56	4.25	4.01	3.82	3.66	3.52	3.41	3.31	3.23	3.15	3.09	3.03	2.98	2.93	2.89	2.85	2.81	2.78	2.75	2.73	2.70	2.52	2.35	2.19	2.04
3 4 5 6 7 5403 5625 5764 5859 5928 58 99.17 99.25 99.30 99.33 99.36 59.36 16.69 15.98 15.52 15.21 14.98 11.06 11.39 10.97 10.67 10.46 9.78 9.18 8.75 11.49 10.46 9.78 11.39 10.97 10.67 10.46 9.78 9.18 8.75 8.76 8.26 9.78 9.18 8.75 8.74 8.26 9.78 9.19 6.18 6.99 6.42 6.06 5.80 5.61 6.25 5.99 5.64 5.39 5.20 6.18 6.46 6.25 5.99 5.64 5.39 5.61 4.64 6.25 5.99 5.64 5.39 5.20 6.18 6.25 5.99 5.64 5.39 5.21 6.25	of freedom for the numerat	12	5106	99.42	27.05	14.37	68.6	7.72	6.47	2.67	5.11	4.71	4.40	4.16	3.96	3.80	3.67	3.55	3.46	3.37	3.30	3.23	3.17	3.12	3.07	3.03	2.99	2.96	2.93	2.90	2.87	2.84	5.66	2.50	2.34	2.18
3 4 5 6 7 5403 5625 5764 5859 5928 58 99.17 99.25 99.30 99.33 99.36 59.36 16.69 15.98 15.52 15.21 14.98 11.06 11.39 10.97 10.67 10.46 9.78 9.18 8.75 11.49 10.46 9.78 11.39 10.97 10.67 10.46 9.78 9.18 8.75 8.76 8.26 9.78 9.18 8.75 8.74 8.26 9.78 9.19 6.18 6.99 6.42 6.06 5.80 5.61 6.25 5.99 5.64 5.39 5.20 6.18 6.46 6.25 5.99 5.64 5.39 5.61 4.64 6.25 5.99 5.64 5.39 5.20 6.18 6.25 5.99 5.64 5.39 5.21 6.25		10		99.40	27.23	14.55	10.05	7.87	6.62	5.81	5.26	4.85	4.54	4.30	4.10	3.94	3.80	3.69	3.59	3.51	3.43	3.37	3.31	3.26	3.21	3.17	3.13	3.09	3.06	3.03	3.00	2.98	2.80	2.63	2.47	2.32
3 4 5 6 7 5403 5625 5764 5859 5928 58 99.17 99.25 99.30 99.33 99.36 59.36 16.69 15.98 15.52 15.21 14.98 11.06 11.39 10.97 10.67 10.46 9.78 9.18 8.75 11.49 10.46 9.78 11.39 10.97 10.67 10.46 9.78 9.18 8.75 8.76 8.26 9.78 9.18 8.75 8.74 8.26 9.78 9.19 6.18 6.99 6.42 6.06 5.80 5.61 6.25 5.99 5.64 5.39 5.20 6.18 6.46 6.25 5.99 5.64 5.39 5.61 4.64 6.25 5.99 5.64 5.39 5.20 6.18 6.25 5.99 5.64 5.39 5.21 6.25		6	5022	99.39	27.35	14.66	10.16	7.98	6.72	5.91	5.35	4.94	4.63	4.39	4.19	4.03	3.89	3.78	3.68	3.60	3.52	3.46	3.40	3.35	3.30	3.26	3.22	3.18	3.15	3.12	3.09	3.07	2.89	2.72	2.56	2.41
3 4 5 6 5403 5625 5764 5859 595 99.17 99.25 99.30 99.33 9 29.46 28.71 28.24 27.91 2 16.69 15.98 15.52 15.21 1 12.06 11.39 10.97 10.67 1 9.78 9.15 8.75 8.47 8.47 8.45 7.85 7.46 7.19 7.89 6.29 6.42 6.06 5.80 6.37 6.55 5.99 6.42 6.39 6.37 6.20 6.42 6.06 5.80 6.37 6.25 5.99 6.44 7.19 7.19 6.25 5.99 5.64 5.39 6.37 6.25 5.99 5.64 5.39 6.37 6.25 5.99 5.44 4.10 3.94 5.24 4.89 4.46 4.40 5.10	Degrees	∞	-	99.37	27.49	14.80	10.29	8.10	6.84	6.03	5.47	90.9	4.74	4.50	4.30	4.14	4.00	3.89	3.79	3.71	3.63	3.56	3.51	3.45	3.41	3.36	3.32	3.29	3.26	3.23	3.20	3.17	2.99	2.82	2.66	2.51
3 4 5 6 5403 5625 5764 5859 99.17 99.25 99.30 99.33 29.46 28.71 28.24 27.91 16.69 15.98 15.52 15.21 12.06 11.39 10.97 10.67 9.78 9.15 8.45 17.9 8.45 7.85 7.01 6.63 6.37 6.99 6.42 6.06 5.80 6.55 5.99 5.64 5.39 6.22 5.67 5.32 5.07 5.29 5.44 7.19 6.25 5.99 5.64 5.39 6.25 5.99 5.64 5.39 6.25 5.91 6.63 6.37 5.74 5.21 4.86 4.46 5.74 4.87 4.43 4.10 3.84 5.78 4.77 4.44 4.10 3.84 4.87 4.31 3.94<		7	5928	96.36	27.67	14.98	10.46	8.26	66.9	6.18	5.61	5.20	4.89	4.64	4.44	4.28	4.14	4.03	3.93	3.84	3.77	3.70	3.64	3.59	3.54	3.50	3.46	3.42	3.39	3.36	3.33	3.30	3.12	2.95	2.79	2.64
3 4 5 5403 5625 5764 99.17 99.25 99.30 29.46 28.71 28.24 16.69 15.98 15.52 12.06 11.39 10.97 9.15 8.75 8.75 8.45 7.81 8.75 8.45 7.85 7.46 7.59 7.01 6.63 6.29 6.42 6.06 6.25 5.99 5.64 6.25 5.99 5.64 6.25 5.99 5.64 6.25 5.99 5.64 6.25 5.99 5.64 6.25 5.99 5.64 6.25 5.99 5.64 5.74 5.21 4.86 5.78 4.77 4.34 5.18 4.58 4.25 5.09 4.58 4.25 5.09 4.74 4.34 4.87 4.34 4.10		9		~	27.91	15.21	10.67	8.47	7.19	6.37	5.80	5.39	5.07	4.82	4.62	4.46	4.32	4.20	4.10	4.01	3.94	3.87	3.81	3.76	3.71	3.67	3.63	3.59	3.56	3.53	3.50	3.47	3.29	3.12	2.96	2.80
3 4 5403 5625 99.17 99.25 29.46 28.71 16.69 15.98 12.06 11.39 12.06 11.39 9.15 8.45 9.15 8.45 8.45 7.85 7.59 7.01 6.99 6.42 6.55 5.99 6.22 5.67 5.74 5.21 5.75 5.99 6.25 5.99 6.27 5.67 5.29 6.41 5.41 5.21 5.29 6.42 5.42 4.77 5.09 4.58 4.87 4.31 4.64 4.14 4.64 4.14 4.64 4.14 4.64 4.14 4.67 4.07 4.51 4.04 4.54 4.04 4.13 3.83 3.9		3	764						7.46	6.63	90.9	5.64	5.32	5.06	4.86	4.69	4.36	4.44	4.34	4.25	4.17	4.10	4.04	3.99	3.94	3.90	3.85	3.82	3.78	3.75	3.73	3.70	3.51	3.34	3.17	3.02
\$ 5403 99.17 29.46 116.69 116.69 12.06 12.06 12.06 12.06 12.06 12.06 12.06 12.06 12.06 12.06 12.06 12.06 12.06 12.06 12.06 12.07 12.06 12.		4	5625	99.25	28.71	15.98	11.39	9.15	7.85	7.01	6.42	5.99	2.67	5.41	5.21	5.04	4.89	4.77	4.67	4.58	4.50	4.43	4.37	4.31	4.26	4.22	4.18	4.14	4.11	4.07	4.04	4.02	3.83	3.65	3.48	3.32
\$ 1999.5 99.00 30.82 18.00 18.00 18.00 18.00 18.00 18.00 19.25 8.65 8.05 6.73 6.11 6.01 6.01 6.01 5.93 5.72 5.49 5.49 5.49 8.4.98 4.79		3			29.46	_			8.45	7.59	66.9	6.55	6.22	5.95	5.74	5.56	5.42	5.29	5.18	5.09	5.01	4.94	4.87	4.82	4.76	4.72	4.68	4.64	4.60	4.57	4.54	4.51	4.31	4.13	3.95	3.78
		2	4999.5	00.66	30.82	18.00	13.27	10.92	9.55	8.65	8.02	7.56	7.21	6.93	6.70	6.51	98.3	6.23	6.11	6.01	5.93	5.85	5.78	5.72	99.5	5.61	5.57	5.53	5.49	5.45	5.42	5.39	5.18	4.98	4.79	4.61
1 4052 98.50 34.12 21.20 16.26 13.75 11.25 11.25 11.25 10.04 9.65 9.33 9.07 8.86 8.86 8.86 8.87 8.87 8.89 8.80 8.10		1		20						11.26	10.56	10.04	9.65	9.33	6.07	8.86	89.8	8.53	8.40	8.29	8.18	8.10	8.02	7.95	7.88	7.82	7.77	7.72	7.68	7.64	7.60	7.56	7.31	7.08	6.85	6.63
Degrees of freedom for the denominator (v ₂) 2	14	/	-	2	n	4	S	9	7	8	6	01																	27	28	59	30	40	09	120	8