

$\mathcal{M}_1 \models 14, 15, 31, 60, 82, 118, 128, 163, 165, 170, 191,$ and 277 , but $13, 17, 50, 65, 106, 131, 144, 164, 253, 289, 299, 300,$ and 369 are false. References include Bell [1983], [1988], Blass [1979], [1977a], Brunner [1982a], [1984b], [1984f], Cohen [1963], [1966], David [1980], Good/Tree [1995], Halpern/Levy [1971], Haddad/Morillon [1990], Howard [1975], Howard/Keremedis/Rubin/Stanley/Tachtsis [1999], Monro [1972], [1973a], Sageev [1981], Shoenfield [1967], Smullyan [1994] and note 120(30 and 49). See, also, Felgner [1971a] (pp 100–103, 131–145), and Jech [1973b] (Chapt. 5, probs 20, 22).

(A minimal list of forms implying each form known to be true in the model: $14, 15, 31, 60, 118, 128, 163, 170, 191, 277$.)

A minimal list of forms at least one of which is implied by each form known to be false in the model: $13, 17, 50, 65, 131, 144, 253, 289, 299, 300, 369$.

A list of all forms known to be true in the model: $0, 5, 6, 10, 11, 12, 14, 15, 18, 19, 30, 31, 32, 33, 34, 35, 38, 45, 46, 47, 48, 49, 52, 60, 61, 62, 63, 64, 69, 70, 72, 73, 80, 82, 83, 84, 85, 88, 93, 96, 99, 102, 104, 107, 108, 111, 118, 119, 120, 121, 122, 123, 127, 128, 132, 137, 139, 140, 141, 142, 146, 150, 151, 153, 154, 163, 165, 167, 170, 178, 182, 189, 190, 191, 198, 201, 206, 209, 213, 216, 221, 222, 223, 225, 226, 227, 228, 229, 231, 233, 235, 241, 242, 249, 250, 268, 269, 270, 271, 276, 277, 280, 283, 285, 287, 288, 293, 294, 295, 296, 298, 308, 309, 311, 313, 314, 322, 323, 324, 326, 327, 329, 330, 331, 332, 336, 338, 342, 343, 344, 349, 350, 355, 356, 357, 358, 370, 371, 373, 374, 376, 377, 378, 379, 380, 385, 386, 387, 389, 390, 401, 404, 406, 410, 411, 412, 419, 420, 421, 423, (430).$

A list of all forms known to be false in the model: $1, 2, 3, 4, 7, 8, 9, 13, 16, 17, 20, 28, 39, 40, 41, 43, 44, 50, 51, 65, 66, 67, 71, 76, 77, 79, 86, 87, 89, 90, 91, 92, 94, 95, 100, 101, 106, 109, 112, 113, 114, 126, 129, 130, 131, 133, 144, 147, 149, 152, 161, 164, 168, 174, 175, 179, 181, 185, 188, 192, 193, 202, 203, 211, 212, 214, 218, 239, 253, 255, 256, 257, 258, 259, 260, 261, 262, 264, 286, 289, 292, 297, 299, 300, 301, 302, 303, 316, 325, 328, 333, 334, 335, 337, 345, 346, 347, 359, 369, 388, 391, 392, 394, 407, 424, 426, 427, 430, (430).$

$\mathcal{M}_1(\omega_1) \models 30, 43, 97, 214,$ and 295 , but $20, 39, 85, 91, 133, 151, 163, 328,$ and 329 are false. References Pincus [1977a], [1997], Brunner [1982a], note 18, and note 120(32, 43, and 47).

(A minimal list of forms implying each form known to be true in the model: $43, 97, 214, 295$.)

A minimal list of forms at least one of which is implied by each form known to be false in the model: $39, 85, 91, 151, 163, 328, 329$.

A list of all forms known to be true in the model: $0, 4, 5, 6, 8, 9, 10, 11, 12, 13, 16, 17, 18, 19, 24, 26, 27, 29, 30, 31, 32, 33, 34, 35, 38, 42, 43, 45, 46, 47, 48, 57, 61, 62, 64, 73, 74, 75, 76, 77, 78, 80, 82, 83, 84, 88, 93, 94, 97, 98, 102, 104, 106, 108, 111, 113, 119, 120, 121, 122, 124, 126, 127, 128, 131, 132, 140, 142, 146, 150, 152, 154, 155, 167, 173, 178, 182, 185, 194, 198, 199, 209, 211, 214, 216, 217, 243, 249, 250, 268, 269, 276, 279, 280, 282, 283, 285, 288, 293, 295, 296, 304, 308, 325, 327, 336, 338, 339, 340, 341, 342, 350, 351, 352, 353, 354, 355, 357, 358, 361, 362, 373, 374, 375, 376, 377, 378, 379, 380, 387, 388, 389, 390, 401, 404, 405, 411, 412, 418, 419, 420, 423, 425, (430).$

A list of all forms known to be false in the model: $1, 20, 21, 23, 28, 39, 40, 44, 60, 66, 67, 85, 89, 90, 91, 95, 100, 101, 109, 112, 114, 133, 147, 149, 151, 163, 164, 168, 202, 213, 218, 231, 239, 255, 256, 257, 258, 259, 260, 261, 262, 264, 286, 292, 328, 329, 333, 334, 335, 347, 359, 391, 427, 430, (430).$

$\mathcal{M}_2 \models 40, 142, 165,$ and 204 , but $70, 88, 152, 163, 203, 222, 274,$ and 385 are false. References Brunner [1982a], Feferman [1965], Pincus [1972c], Truss [1978], [1974b], note 65, and note 120(34 and 46). (See also Felgner [1971a] pp 160–166 where credit for some of the proofs is given to D. Scott and R. Solovay.)

(A minimal list of forms implying each form known to be true in the model: $40, 142, 204$.)

A minimal list of forms at least one of which is implied by each form known to be false in the model: $88, 152, 163, 203, 222, 274$.

A list of all forms known to be true in the model: $0, 5, 6, 8, 9, 10, 11, 12, 13, 16, 17, 18, 19, 24, 26, 27, 29, 31, 32, 34, 35, 38, 39, 40, 42, 43, 47, 48, 57, 58, 64, 73, 74, 77, 78, 80, 82, 83, 84, 86, 92, 93, 94, 98, 104, 106, 108, 111, 113, 119, 122, 124, 126, 127, 128, 131, 132, 142, 150, 151, 154, 155, 165, 167, 170, 182, 185, 194, 196, 198, 199, 204, 208, 209, 211, 216, 217, 231, 243, 249, 250, 279, 280, 282, 288, 294, 296, 304, 322, 324, 325, 327, 328, 330, 336, 337, 338, 339, 340, 341, 342, 350, 351, 352, 353, 354, 355, 357, 358, 361, 362, 373, 374, 375, 376, 377, 378, 379, 380, 387, 388, 389, 390, 404, 411, 412, 418, 419, 420, 421, 423, (430).$

A list of all forms known to be false in the model: $1, 14, 15, 28, 30, 36, 49, 50, 52, 60, 61, 62, 63, 66, 67, 68, 70, 79, 85, 88, 89, 90, 91, 95, 99, 107, 109, 112, 114, 123, 130, 133, 147, 149, 152, 163, 164, 201, 202,$

203, 213, 214, 218, 221, 222, 225, 239, 264, 270, 274, 284, 287, 292, 295, 303, 311, 313, 317, 323, 326, 331, 332, 333, 334, 335, 343, 344, 345, 384, 385, 391, 399, 407, 408, 409, 427, 430, (430).)

$\mathcal{M}2(\kappa) \models$ 222, but 52, and 91 are false. References Pincus [1972c] and note 18.

(A minimal list of forms implying each form known to be true in the model: 222.

A minimal list of forms at least one of which is implied by each form known to be false in the model: 52, 91.

A list of all forms known to be true in the model: 0, 142, 222, 223, 280, (430).

A list of all forms known to be false in the model: 1, 14, 28, 50, 52, 66, 67, 89, 90, 91, 95, 109, 112, 114, 133, 147, 149, 164, 202, 218, 239, 264, 292, 303, 317, 333, 334, 335, 345, 384, 391, 407, 427, 430, (430).)

$\mathcal{M}2(\omega_2) \models$ 181, but 163, 202, and 203 are false. References Truss [1978] and Brunner [1982a].

(A minimal list of forms implying each form known to be true in the model: 181.

A minimal list of forms at least one of which is implied by each form known to be false in the model: 163, 203.

A list of all forms known to be true in the model: 0, 5, 6, 8, 9, 10, 11, 12, 13, 16, 17, 18, 19, 24, 26, 27, 29, 31, 32, 34, 35, 38, 57, 64, 73, 74, 80, 82, 83, 84, 94, 98, 104, 108, 119, 124, 126, 127, 128, 131, 132, 150, 167, 181, 182, 185, 194, 198, 199, 209, 216, 217, 249, 282, 288, 296, 304, 325, 336, 338, 340, 341, 342, 350, 351, 352, 353, 354, 355, 357, 358, 361, 362, 373, 374, 376, 377, 378, 379, 380, 387, 389, 390, 404, 418, 419, 420, 423, (430).

A list of all forms known to be false in the model: 1, 28, 66, 67, 79, 89, 90, 91, 95, 109, 112, 114, 130, 133, 147, 149, 163, 164, 202, 203, 218, 239, 264, 292, 333, 334, 335, 391, 427, 430, (430).)

$\mathcal{M}3 \models$ 15, 60, and 165, but 49, 91, 99, 144, 152, and 133 are false. References Mathias [1967], notes 25, 33 and 120(6, 34 and 43). Also, see Felgner [1971a] (pp 114–128) and Jech [1973b] (p 113, prob 8).

(A minimal list of forms implying each form known to be true in the model: 15, 60.

A minimal list of forms at least one of which is implied by each form known to be false in the model: 49, 91, 99, 144, 152.

A list of all forms known to be true in the model: 0, 5, 10, 11, 12, 15, 18, 30, 32, 33, 38, 45, 46, 47, 48, 60, 61, 62, 64, 73, 80, 82, 83, 84, 85, 88, 93, 102, 108, 111, 119, 120, 121, 122, 127, 132, 140, 142, 146, 150, 151, 165, 167, 178, 198, 213, 216, 231, 249, 250, 268, 269, 270, 271, 276, 280, 283, 285, 288, 293, 294, 295, 296, 308, 314, 322, 323, 324, 327, 329, 330, 336, 338, 342, 349, 350, 355, 356, 357, 358, 373, 374, 376, 377, 378, 379, 380, 387, 389, 390, 401, 404, 421, 423, (430).

A list of all forms known to be false in the model: 1, 14, 28, 49, 50, 66, 67, 89, 90, 91, 95, 99, 109, 112, 114, 133, 144, 147, 149, 152, 164, 179, 202, 214, 218, 239, 264, 292, 303, 317, 333, 334, 335, 345, 384, 391, 407, 427, 430, (430).)

$\mathcal{M}4 \models$ 52, but 65, 88, 91, and 358 are false. References Pincus [1972c] and note 18.

(A minimal list of forms implying each form known to be true in the model: 52.

A minimal list of forms at least one of which is implied by each form known to be false in the model: 65, 88, 91, 358.

A list of all forms known to be true in the model: 0, 52, 93, 142, 221, 222, 223, 280, 287, 309, (430).

A list of all forms known to be false in the model: 1, 2, 3, 4, 7, 8, 9, 10, 14, 15, 16, 17, 20, 21, 23, 27, 28, 29, 30, 31, 32, 36, 39, 40, 41, 43, 44, 49, 50, 60, 61, 62, 65, 66, 67, 68, 71, 85, 86, 87, 88, 89, 90, 91, 95, 100, 101, 107, 109, 112, 113, 114, 121, 122, 123, 129, 132, 133, 147, 149, 150, 151, 152, 153, 154, 161, 164, 165, 168, 174, 181, 192, 201, 202, 213, 214, 218, 231, 239, 255, 256, 257, 258, 259, 260, 261, 262, 264, 270, 284, 286, 292, 295, 302, 303, 317, 322, 323, 324, 325, 326, 327, 331, 332, 333, 334, 335, 338, 340, 341, 343, 344, 345, 347, 352, 354, 355, 358, 359, 376, 377, 378, 380, 384, 385, 386, 391, 392, 393, 394, 398, 399, 400, 401, 402, 403, 406, 407, 408, 409, 410, 411, 412, 421, 426, 427, 430, (430).)

$\mathcal{M}5(\aleph) \models$ 43, 307, and 369 but 88, 93, 142, 163, 169, 224, 234, 277, 280, 281, 312, 313, and 318, are false. References Solovay [1965], [1970], Brunner [1982a], Jech [1968a], Kanovei [1991], Monro [1973a], Mathias [1968], Prikry [1976], Raisonier [1984], Shelah [1984], Stern [1979], Truss [1974b], Wright [1973], Wagon [1985], and note 20.

(A minimal list of forms implying each form known to be true in the model: 43, 307, 369.

A minimal list of forms at least one of which is implied by each form known to be false in the model: 93, 163, 169, 224, 234, 277, 280, 281, 312, 318.

A list of all forms known to be true in the model: 0, 5, 6, 8, 9, 10, 11, 12, 13, 16, 17, 18, 19, 24, 26, 27, 29, 31, 32, 34, 35, 38, 42, 43, 57, 64, 73, 74, 77, 78, 80, 82, 83, 84, 94, 98, 104, 106, 108, 113, 119, 124, 126, 127, 128, 131, 132, 150, 154, 155, 167, 182, 185, 194, 198, 199, 209, 211, 216, 217, 243, 249, 279, 282, 288, 296, 304, 307, 325, 336, 338, 339, 340, 341, 342, 350, 351, 352, 353, 354, 355, 357, 358, 361, 362, 369, 373, 374, 375, 376, 377, 378, 379, 380, 387, 388, 389, 390, 404, 411, 412, 418, 419, 420, 423, (430).

A list of all forms known to be false in the model: 1, 14, 15, 20, 28, 30, 36, 40, 49, 50, 51, 52, 60, 61, 62, 63, 66, 67, 68, 70, 79, 85, 88, 89, 90, 91, 92, 93, 95, 99, 100, 101, 107, 109, 112, 114, 117, 123, 130, 133, 142, 147, 149, 163, 164, 168, 169, 170, 184, 195, 201, 202, 203, 213, 218, 221, 222, 224, 225, 234, 239, 251, 252, 255, 256, 257, 258, 259, 260, 261, 262, 264, 270, 272, 277, 280, 281, 284, 286, 287, 292, 295, 302, 303, 305, 306, 309, 310, 311, 312, 313, 317, 318, 319, 320, 323, 326, 331, 332, 333, 334, 335, 337, 343, 344, 345, 347, 359, 363, 366, 367, 368, 384, 385, 391, 392, 394, 399, 407, 408, 409, 427, 430, (430).

$\mathcal{M6} \models 3, 30, 34, 170$, and 295, but 5, 126, 163, and 330 are false. References Sageev [1975], Gonzalez [1995a], Howard/Keremedis/Rubin/Stanley/Tachtsis [1999], notes 2(8), 120(9), and 123.

(A minimal list of forms implying each form known to be true in the model: 3, 34, 170, 295.

A minimal list of forms at least one of which is implied by each form known to be false in the model: 5, 163, 330.

A list of all forms known to be true in the model: 0, 3, 4, 9, 10, 11, 12, 13, 17, 18, 19, 30, 33, 34, 38, 45, 46, 47, 48, 53, 57, 61, 62, 64, 73, 75, 80, 82, 83, 84, 88, 93, 98, 102, 104, 108, 111, 120, 121, 122, 124, 127, 128, 132, 140, 142, 146, 167, 170, 178, 182, 185, 186, 198, 199, 204, 216, 217, 249, 250, 268, 269, 276, 280, 283, 285, 288, 293, 295, 296, 304, 308, 325, 327, 336, 342, 358, 373, 374, 376, 377, 378, 387, 389, 390, 401, 404, 405, 423, (430).

A list of all forms known to be false in the model: 1, 5, 6, 8, 16, 20, 21, 23, 27, 28, 29, 31, 32, 39, 40, 43, 44, 51, 60, 66, 67, 79, 85, 86, 87, 89, 90, 91, 92, 94, 95, 100, 101, 106, 109, 112, 113, 114, 126, 130, 133, 147, 149, 150, 163, 164, 165, 168, 174, 181, 188, 192, 193, 202, 203, 211, 212, 213, 218, 231, 239, 255, 256, 257, 258, 259, 260, 261, 262, 264, 286, 292, 302, 328, 329, 330, 333, 334, 335, 337, 338, 345, 346, 347, 352, 354, 359, 388, 391, 392, 393, 394, 395, 396, 397, 407, 421, 424, 426, 427, 430, (430).

$\mathcal{M7} \models 191$, but 18, 91, 340, 341, and 389 are false. References Blass [1979], Cohen [1965], [1963], [1966], Good/Tree [1995], Jech [1973b] (pp 68ff), and note 18.

(A minimal list of forms implying each form known to be true in the model: 191.

A minimal list of forms at least one of which is implied by each form known to be false in the model: 18, 389.

A list of all forms known to be true in the model: 0, 182, 189, 190, 191, (430).

A list of all forms known to be false in the model: 1, 2, 3, 4, 7, 8, 9, 10, 14, 15, 16, 17, 18, 20, 21, 23, 27, 28, 29, 30, 31, 32, 36, 39, 40, 41, 43, 44, 49, 50, 60, 61, 62, 66, 67, 68, 71, 79, 80, 85, 86, 87, 88, 89, 90, 91, 95, 100, 101, 107, 109, 110, 111, 112, 113, 114, 121, 122, 123, 129, 130, 132, 133, 139, 147, 149, 150, 151, 152, 153, 154, 161, 164, 165, 166, 167, 168, 174, 181, 192, 201, 202, 213, 214, 218, 231, 239, 250, 255, 256, 257, 258, 259, 260, 261, 262, 264, 270, 284, 286, 292, 295, 302, 303, 317, 322, 323, 324, 325, 326, 327, 331, 332, 333, 334, 335, 338, 340, 341, 343, 344, 345, 346, 347, 352, 354, 355, 358, 359, 376, 377, 378, 379, 380, 384, 385, 386, 389, 391, 392, 393, 394, 398, 399, 400, 401, 402, 403, 406, 407, 408, 409, 410, 411, 412, 421, 422, 426, 427, 430, (430).

In $\mathcal{M7}(n)$, forms $47(n)$ and 91 are false. Reference note 18.

(A minimal list of forms implying each form known to be true in the model: 0.

A minimal list of forms at least one of which is implied by each form known to be false in the model: 47, 91.

A list of all forms known to be true in the model: 0, (430).

A list of all forms known to be false in the model: 1, 14, 15, 20, 21, 23, 28, 30, 33, 36, 40, 45, 47, 49, 50, 60, 61, 62, 66, 67, 68, 85, 89, 90, 91, 95, 100, 101, 107, 109, 112, 114, 121, 122, 123, 133, 147, 149, 151, 164, 165, 168, 202, 213, 218, 231, 239, 250, 255, 256, 257, 258, 259, 260, 261, 262, 264, 270, 284, 286, 292, 295, 302, 303, 317, 322, 323, 324, 327, 331, 332, 333, 334, 335, 343, 344, 345, 347, 359, 384, 391, 392, 393, 394, 398, 399, 400, 401, 402, 403, 407, 408, 409, 422, 427, 430, (430).

In $\mathcal{M8}$, forms 8, 25, and 91 are false. References Apter [1985a], notes 18 and 20.

(A minimal list of forms implying each form known to be true in the model: 0.

A minimal list of forms at least one of which is implied by each form known to be false in the model: 8, 25, 91.

A list of all forms known to be true in the model: 0, (430).

A list of all forms known to be false in the model: 1, 8, 20, 21, 23, 25, 28, 39, 40, 43, 44, 51, 66, 67, 86, 87, 89, 90, 91, 95, 100, 101, 109, 112, 113, 114, 133, 147, 149, 164, 168, 174, 181, 192, 202, 218, 239, 255, 256, 257, 258, 259, 260, 261, 262, 264, 286, 292, 333, 334, 335, 345, 347, 359, 391, 407, 426, 427, 430, (430).

In $\mathcal{M}9$, form 38 is false. References Feferman/Levy [1963], Cohen [1966] (p 143), Jech [1973b] (p 142).

(A minimal list of forms implying each form known to be true in the model: 0.

A minimal list of forms at least one of which is implied by each form known to be false in the model: 38.

A list of all forms known to be true in the model: 0, (430).

A list of all forms known to be false in the model: 1, 5, 6, 8, 16, 20, 21, 23, 25, 27, 28, 29, 31, 32, 34, 35, 37, 38, 39, 40, 43, 44, 51, 60, 66, 67, 79, 85, 86, 87, 89, 90, 91, 92, 94, 95, 100, 101, 106, 109, 112, 113, 114, 126, 130, 133, 147, 149, 150, 164, 165, 168, 172, 174, 181, 188, 192, 193, 202, 203, 211, 212, 213, 218, 231, 239, 245, 255, 256, 257, 258, 259, 260, 261, 262, 264, 286, 292, 302, 328, 333, 334, 335, 337, 338, 345, 346, 347, 352, 354, 359, 363, 381, 388, 391, 392, 393, 394, 407, 418, 419, 420, 421, 424, 426, 427, 430, (430).

In $\mathcal{M}10$, forms 40, 43, 56, 91 and 275 are false. References Derrick/Drake [1967b], Mathias [1979] p 125, Truss [1974b], note 18.

(A minimal list of forms implying each form known to be true in the model: 0.

A minimal list of forms at least one of which is implied by each form known to be false in the model: 43, 56, 91, 275.

A list of all forms known to be true in the model: 0, (430).

A list of all forms known to be false in the model: 1, 20, 28, 40, 43, 44, 56, 66, 67, 87, 89, 90, 91, 95, 100, 101, 109, 112, 114, 133, 147, 149, 164, 168, 174, 192, 202, 218, 239, 255, 256, 257, 258, 259, 260, 261, 262, 264, 275, 286, 292, 333, 334, 335, 345, 347, 359, 391, 407, 427, 430, (430).

$\mathcal{M}11 \models 15, 60$, and 165, but 91, 105, 133, 144, 152, and 163 are false. References Forti/Honsell [1985], Brunner [1982a], Easton [1970], notes 25 and 120(6, 34, and 43).

(A minimal list of forms implying each form known to be true in the model: 15, 60.

A minimal list of forms at least one of which is implied by each form known to be false in the model: 91, 105, 144, 152, 163.

A list of all forms known to be true in the model: 0, 5, 10, 11, 12, 15, 18, 30, 32, 33, 38, 45, 46, 47, 48, 60, 61, 62, 64, 73, 80, 82, 83, 84, 85, 88, 93, 102, 108, 111, 119, 120, 121, 122, 127, 132, 140, 142, 146, 150, 151, 165, 167, 178, 198, 213, 216, 231, 249, 250, 268, 269, 270, 271, 276, 280, 283, 285, 288, 293, 294, 295, 296, 308, 314, 322, 323, 324, 327, 329, 330, 336, 338, 342, 349, 350, 355, 356, 357, 358, 373, 374, 376, 377, 378, 379, 380, 387, 389, 390, 401, 404, 421, 423, (430).

A list of all forms known to be false in the model: 1, 28, 59, 66, 67, 89, 90, 91, 95, 105, 109, 112, 114, 133, 144, 147, 149, 152, 163, 164, 179, 202, 214, 218, 239, 264, 292, 333, 334, 335, 391, 427, 430, (430).

$\mathcal{M}12(\aleph) \models 6, 231$, and 369, but 30, 31, 34, 43, 106, 152, 169, 273, and 328 are false. References Truss [1974b] and notes 43 and 120(43 and 55).

(A minimal list of forms implying each form known to be true in the model: 6, 231, 369.

A minimal list of forms at least one of which is implied by each form known to be false in the model: 30, 34, 152, 169, 273.

A list of all forms known to be true in the model: 0, 5, 6, 10, 18, 32, 38, 47, 48, 80, 108, 111, 119, 122, 151, 165, 216, 231, 249, 250, 288, 294, 324, 327, 330, 338, 350, 357, 358, 369, 373, 374, 389, 421, 423, (430).

A list of all forms known to be false in the model: 1, 8, 14, 15, 16, 20, 21, 23, 25, 27, 28, 29, 30, 31, 34, 39, 40, 43, 44, 49, 50, 51, 66, 67, 79, 86, 87, 89, 90, 91, 92, 94, 95, 100, 101, 106, 109, 112, 113, 114, 126, 130, 133, 147, 149, 152, 164, 168, 169, 172, 174, 181, 188, 192, 193, 202, 203, 211, 212, 214, 218, 239, 245, 255, 256, 257, 258, 259, 260, 261, 262, 264, 272, 273, 286, 292, 295, 302, 303, 317, 328, 333, 334, 335, 337, 345, 346, 347, 352, 359, 363, 364, 381, 384, 388, 391, 392, 394, 407, 418, 419, 420, 424, 426, 427, 430, (430).

$\mathcal{M}13 \models 40, 43$, and 165, but 44, 67, 91, 152 and 163 are false. References Felgner [1971a] p 166, Brunner [1982a], notes 18 and 120(41, 34 and 46).

(A minimal list of forms implying each form known to be true in the model: 40.

A minimal list of forms at least one of which is implied by each form known to be false in the model: 44, 91, 152, 163.

A list of all forms known to be true in the model: 0, 5, 6, 8, 9, 10, 11, 12, 13, 16, 17, 18, 19, 24, 26, 27, 29, 31, 32, 34, 35, 38, 39, 40, 42, 43, 47, 48, 57, 58, 64, 73, 74, 77, 78, 80, 82, 83, 84, 86, 92, 93, 94, 98, 104, 106, 108, 111, 113, 119, 122, 124, 126, 127, 128, 131, 132, 150, 151, 154, 155, 165, 167, 170, 182, 185, 194, 196, 198, 199, 208, 209, 211, 216, 217, 231, 243, 249, 250, 279, 282, 288, 294, 296, 304, 322, 324, 325, 327, 328, 330, 336, 337, 338, 339, 340, 341, 342, 350, 351, 352, 353, 354, 355, 357, 358, 361, 362, 373, 374, 375, 376, 377, 378, 379, 380, 387, 388, 389, 390, 404, 411, 412, 418, 419, 420, 421, 423, (430).

A list of all forms known to be false in the model: 1, 28, 44, 66, 67, 89, 90, 91, 95, 109, 112, 114, 133, 147, 149, 152, 163, 164, 202, 214, 218, 239, 264, 292, 333, 334, 335, 391, 427, 430, (430).

$\mathcal{M}_{14} \models 30$ and 51, but 49, 91, 99, 133, and 144 are false. References Morris [1969], notes 18, 25 and 33.

(A minimal list of forms implying each form known to be true in the model: 30, 51.

A minimal list of forms at least one of which is implied by each form known to be false in the model: 49, 91, 99, 144.

A list of all forms known to be true in the model: 0, 5, 6, 10, 11, 12, 13, 18, 19, 25, 30, 33, 34, 35, 38, 45, 46, 47, 48, 51, 58, 61, 62, 64, 73, 74, 77, 80, 83, 84, 88, 92, 93, 94, 102, 104, 108, 111, 120, 121, 122, 127, 132, 140, 142, 146, 170, 178, 182, 185, 194, 198, 199, 208, 211, 216, 249, 250, 268, 269, 276, 280, 283, 285, 288, 293, 294, 308, 315, 316, 327, 336, 337, 342, 358, 373, 374, 377, 378, 387, 389, 390, 401, 423, (430).

A list of all forms known to be false in the model: 1, 14, 28, 49, 50, 66, 67, 89, 90, 91, 95, 99, 109, 112, 114, 133, 144, 147, 149, 164, 179, 202, 218, 239, 264, 292, 303, 317, 333, 334, 335, 345, 384, 391, 407, 427, 430, (430).

$\mathcal{M}_{15} \models 144$ and 253, but 206 is false. References Blass [1977b], Feferman [1965], Howard [1975].

(A minimal list of forms implying each form known to be true in the model: 144, 253.

A minimal list of forms at least one of which is implied by each form known to be false in the model: 206.

A list of all forms known to be true in the model: 0, 125, 144, 253, 413, 414, 415, 416, (430).

A list of all forms known to be false in the model: 1, 14, 28, 50, 63, 66, 67, 70, 79, 89, 90, 91, 95, 99, 109, 112, 114, 123, 130, 133, 147, 149, 164, 202, 206, 218, 225, 239, 264, 292, 303, 317, 333, 334, 335, 345, 384, 385, 391, 407, 427, 430, (430).

In $\mathcal{M}_{16}(n)$, forms 15, $81(n)$, and 91 are false. References Monro [1972], [1973b], note 18.

(A minimal list of forms implying each form known to be true in the model: 0.

A minimal list of forms at least one of which is implied by each form known to be false in the model: 15, 81, 91.

A list of all forms known to be true in the model: 0, (430).

A list of all forms known to be false in the model: 1, 15, 28, 66, 67, 81, 89, 90, 91, 95, 109, 112, 114, 133, 147, 149, 164, 202, 218, 239, 264, 292, 333, 334, 335, 391, 427, 430, (430).

In \mathcal{M}_{17} , forms 91, 104, 182, and 315 are false. References Gitik [1980], [1985], notes 18 and 55.

(A minimal list of forms implying each form known to be true in the model: 0.

A minimal list of forms at least one of which is implied by each form known to be false in the model: 182, 315.

A list of all forms known to be true in the model: 0, (430).

A list of all forms known to be false in the model: 1, 8, 16, 20, 21, 23, 25, 27, 28, 29, 31, 34, 39, 40, 43, 44, 51, 66, 67, 79, 86, 87, 89, 90, 91, 92, 94, 95, 100, 101, 104, 106, 109, 112, 113, 114, 126, 130, 133, 147, 149, 159, 164, 168, 172, 174, 181, 182, 188, 191, 192, 193, 202, 203, 211, 212, 218, 239, 245, 255, 256, 257, 258, 259, 260, 261, 262, 264, 286, 292, 302, 315, 328, 333, 334, 335, 337, 345, 346, 347, 352, 359, 381, 388, 391, 392, 394, 407, 418, 419, 420, 424, 426, 427, 430, (430).

$\mathcal{M}_{18} \models 43$ and 93, but 142 and 163 are false. References Shelah [1984], Solovay [1970], Stern [1985], and Brunner [1982a].

(A minimal list of forms implying each form known to be true in the model: 43, 93.

A minimal list of forms at least one of which is implied by each form known to be false in the model: 142, 163.

A list of all forms known to be true in the model: 0, 5, 6, 8, 9, 10, 11, 12, 13, 16, 17, 18, 19, 24, 26, 27, 29, 31, 32, 34, 35, 38, 42, 43, 57, 64, 73, 74, 77, 78, 80, 82, 83, 84, 93, 94, 98, 104, 106, 108, 113, 119, 124, 126, 127, 128, 131, 132, 150, 154, 155, 167, 182, 185, 194, 198, 199, 209, 211, 216, 217, 243, 249, 279, 282, 288, 296, 304, 325, 336, 338, 339, 340, 341, 342, 350, 351, 352, 353, 354, 355, 357, 358, 361, 362, 373, 374, 375, 376, 377, 378, 379, 380, 387, 388, 389, 390, 404, 411, 412, 418, 419, 420, 423, (430).

A list of all forms known to be false in the model: 1, 14, 15, 28, 30, 36, 49, 50, 52, 60, 61, 62, 63, 66, 67, 68, 70, 79, 85, 88, 89, 90, 91, 95, 99, 107, 109, 112, 114, 123, 130, 133, 142, 147, 149, 163, 164, 201, 202, 213, 218, 221, 222, 225, 239, 264, 270, 284, 287, 292, 295, 303, 310, 311, 313, 317, 323, 326, 331, 332, 333, 334, 335, 343, 344, 345, 384, 385, 391, 399, 407, 408, 409, 427, 430, (430).

In $\mathcal{M}19(\aleph)$, forms 91 and 160 are false. References Monro [1975] and note 18.

(A minimal list of forms implying each form known to be true in the model: 0.

A minimal list of forms at least one of which is implied by each form known to be false in the model: 91, 160.

A list of all forms known to be true in the model: 0, (430).

A list of all forms known to be false in the model: 1, 28, 66, 67, 89, 90, 91, 95, 109, 112, 114, 133, 147, 149, 160, 164, 202, 218, 239, 264, 292, 333, 334, 335, 391, 427, 430, (430).

$\mathcal{M}20 \models 30, 60, 165$, and 231, but 31, 91, 131, 133, 144, 152, and 328 are false. References Felgner [1974], notes 18, 25, and 120(34, 43, and 49).

(A minimal list of forms implying each form known to be true in the model: 30, 60.

A minimal list of forms at least one of which is implied by each form known to be false in the model: 31, 91, 131, 144, 152.

A list of all forms known to be true in the model: 0, 5, 10, 11, 12, 18, 30, 32, 33, 38, 45, 46, 47, 48, 60, 61, 62, 64, 73, 80, 83, 85, 88, 93, 102, 108, 111, 119, 120, 121, 122, 127, 132, 140, 142, 146, 150, 151, 165, 178, 198, 213, 216, 231, 249, 250, 268, 269, 270, 271, 276, 280, 283, 285, 288, 293, 294, 308, 314, 323, 324, 327, 329, 330, 336, 338, 342, 349, 350, 356, 357, 358, 373, 374, 377, 378, 380, 387, 389, 390, 401, 421, 423, (430).

A list of all forms known to be false in the model: 1, 8, 16, 20, 21, 23, 27, 28, 29, 31, 39, 40, 43, 44, 66, 67, 76, 86, 87, 89, 90, 91, 95, 100, 101, 106, 109, 112, 113, 114, 126, 131, 133, 144, 147, 149, 152, 164, 168, 174, 179, 181, 188, 192, 193, 202, 214, 218, 239, 255, 256, 257, 258, 259, 260, 261, 262, 264, 286, 292, 328, 333, 334, 335, 345, 346, 347, 352, 359, 388, 391, 407, 426, 427, 430, (430).

$\mathcal{M}21 \models 8$, but 91, 163, and 231 are false. References Felgner [1974], Brunner [1982a], and note 18.

(A minimal list of forms implying each form known to be true in the model: 8.

A minimal list of forms at least one of which is implied by each form known to be false in the model: 91, 163, 231.

A list of all forms known to be true in the model: 0, 5, 6, 8, 9, 10, 11, 12, 13, 16, 17, 18, 19, 24, 26, 27, 29, 31, 32, 34, 35, 38, 57, 64, 73, 74, 80, 82, 83, 84, 94, 98, 104, 108, 119, 124, 126, 127, 128, 131, 132, 150, 167, 182, 185, 194, 198, 199, 209, 216, 217, 249, 282, 288, 296, 304, 325, 336, 338, 340, 341, 342, 350, 351, 352, 353, 354, 355, 357, 358, 361, 362, 373, 374, 376, 377, 378, 379, 380, 387, 389, 390, 404, 418, 419, 420, 423, (430).

A list of all forms known to be false in the model: 1, 20, 28, 40, 60, 66, 67, 89, 90, 91, 95, 100, 101, 109, 112, 114, 133, 147, 149, 163, 164, 168, 202, 218, 231, 239, 255, 256, 257, 258, 259, 260, 261, 262, 264, 286, 292, 333, 334, 335, 347, 359, 391, 427, 430, (430).

In $\mathcal{M}22$, forms 9, 91 and 176 are false. References Plotkin [1969], [1981], Felgner [1975], notes 18 and 24.

(A minimal list of forms implying each form known to be true in the model: 0.

A minimal list of forms at least one of which is implied by each form known to be false in the model: 9, 91, 176.

A list of all forms known to be true in the model: 0, (430).

A list of all forms known to be false in the model: 1, 2, 3, 4, 7, 8, 9, 20, 28, 39, 40, 41, 43, 44, 66, 67, 71, 86, 87, 89, 90, 91, 95, 100, 101, 109, 112, 113, 114, 129, 133, 147, 149, 152, 161, 164, 168, 174, 176, 181, 192, 202, 214, 218, 239, 255, 256, 257, 258, 259, 260, 261, 262, 264, 286, 292, 333, 334, 335, 345, 347, 359, 391, 407, 426, 427, 430, (430).

In $\mathcal{M}23$, forms 91 and 180 are false. References Hodges [1976b], [1980], and note 18.

(A minimal list of forms implying each form known to be true in the model: 0.
A minimal list of forms at least one of which is implied by each form known to be false in the model: 91, 180.
A list of all forms known to be true in the model: 0, (430).
A list of all forms known to be false in the model: 1, 28, 66, 67, 89, 90, 91, 95, 109, 112, 114, 133, 147, 149, 164, 180, 202, 218, 239, 264, 292, 333, 334, 335, 391, 427, 430, (430).)

In $\mathcal{M}24$, forms 91 and 190 are false. References Blass [1979], Easton [1970], notes 18 and 60.
(A minimal list of forms implying each form known to be true in the model: 0.
A minimal list of forms at least one of which is implied by each form known to be false in the model: 91, 190.
A list of all forms known to be true in the model: 0, (430).
A list of all forms known to be false in the model: 1, 28, 66, 67, 89, 90, 91, 95, 109, 112, 114, 133, 147, 149, 164, 189, 190, 191, 202, 218, 239, 264, 292, 333, 334, 335, 391, 427, 430, (430).)

$\mathcal{M}25 \models 40$ and 165, but 67, 91, 152, 163, and 181 are false. References Freyd [1980], Fourman [1980], MacLane [1971], Johnston [1984], Brunner [1982a], notes 18 and 120(24, 41, and 46).
(A minimal list of forms implying each form known to be true in the model: 40.
A minimal list of forms at least one of which is implied by each form known to be false in the model: 91, 152, 163, 181.
A list of all forms known to be true in the model: 0, 5, 6, 8, 9, 10, 11, 12, 13, 16, 17, 18, 19, 24, 26, 27, 29, 31, 32, 34, 35, 38, 39, 40, 42, 43, 47, 48, 57, 58, 64, 73, 74, 77, 78, 80, 82, 83, 84, 86, 92, 93, 94, 98, 104, 106, 108, 111, 113, 119, 122, 124, 126, 127, 128, 131, 132, 150, 151, 154, 155, 165, 167, 170, 182, 185, 194, 196, 198, 199, 208, 209, 211, 216, 217, 231, 243, 249, 250, 279, 282, 288, 294, 296, 304, 322, 324, 325, 327, 328, 330, 336, 337, 338, 339, 340, 341, 342, 350, 351, 352, 353, 354, 355, 357, 358, 361, 362, 373, 374, 375, 376, 377, 378, 379, 380, 387, 388, 389, 390, 404, 411, 412, 418, 419, 420, 421, 423, (430).
A list of all forms known to be false in the model: 1, 28, 66, 67, 89, 90, 91, 95, 109, 112, 114, 133, 147, 149, 152, 163, 164, 181, 202, 214, 218, 239, 264, 292, 333, 334, 335, 391, 427, 430, (430).)

In $\mathcal{M}26$, form $199(n)$ is false. References Kanovei [1978], Jensen [1968], and note 61.
(A minimal list of forms implying each form known to be true in the model: 0.
A minimal list of forms at least one of which is implied by each form known to be false in the model: 199.
A list of all forms known to be true in the model: 0, (430).
A list of all forms known to be false in the model: 1, 2, 3, 4, 7, 8, 9, 13, 16, 20, 28, 39, 40, 41, 43, 44, 51, 66, 67, 71, 77, 79, 86, 87, 89, 90, 91, 92, 94, 95, 100, 101, 106, 109, 112, 113, 114, 126, 129, 130, 133, 147, 149, 152, 161, 164, 168, 174, 175, 181, 185, 188, 192, 193, 199, 202, 203, 211, 212, 214, 218, 239, 255, 256, 257, 258, 259, 260, 261, 262, 264, 286, 292, 302, 316, 328, 333, 334, 335, 337, 345, 346, 347, 359, 388, 391, 392, 394, 407, 424, 426, 427, 430, (430).)

$\mathcal{M}27 \models 43, 52,$ and 253, but 163, 206, 286, 371, and 410 are false. References Delhommé/Morillon [2000], Pincus/Solovay [1977], Brunner [1982a], Howard [1975], Morillon [1993], Sacks [1969], Solovay [1971], and notes 23 and 120(26).
(A minimal list of forms implying each form known to be true in the model: 43, 52, 253.
A minimal list of forms at least one of which is implied by each form known to be false in the model: 163, 206, 286, 371, 410.
A list of all forms known to be true in the model: 0, 5, 6, 8, 9, 10, 11, 12, 13, 16, 17, 18, 19, 24, 26, 27, 29, 31, 32, 34, 35, 38, 42, 43, 52, 57, 64, 73, 74, 77, 78, 80, 82, 83, 84, 93, 94, 98, 104, 106, 108, 113, 119, 124, 126, 127, 128, 131, 132, 142, 150, 154, 155, 167, 182, 185, 194, 198, 199, 209, 211, 216, 217, 221, 222, 223, 243, 249, 253, 279, 280, 282, 287, 288, 296, 304, 309, 325, 336, 338, 339, 340, 341, 342, 350, 351, 352, 353, 354, 355, 357, 358, 361, 362, 373, 374, 375, 376, 377, 378, 379, 380, 387, 388, 389, 390, 404, 411, 412, 418, 419, 420, 423, (430).
A list of all forms known to be false in the model: 1, 14, 28, 50, 63, 66, 67, 70, 79, 89, 90, 91, 95, 99, 109, 112, 114, 123, 130, 133, 147, 149, 163, 164, 202, 206, 218, 225, 239, 264, 286, 292, 303, 317, 333, 334, 335, 345, 371, 384, 385, 391, 407, 410, 427, 430, (430).)

In $\mathcal{M}28$, forms 91 and 209 are false. References Morris [1970], and note 18.

(A minimal list of forms implying each form known to be true in the model: 0.

A minimal list of forms at least one of which is implied by each form known to be false in the model: 91, 209.

A list of all forms known to be true in the model: 0, (430).

A list of all forms known to be false in the model: 1, 8, 16, 20, 21, 22, 23, 24, 26, 27, 28, 29, 31, 39, 40, 43, 44, 66, 67, 86, 87, 89, 90, 91, 95, 100, 101, 109, 112, 113, 114, 133, 147, 149, 164, 168, 174, 181, 192, 202, 207, 209, 218, 239, 255, 256, 257, 258, 259, 260, 261, 262, 264, 286, 292, 333, 334, 335, 345, 347, 352, 359, 391, 407, 426, 427, 430, (430).

$\mathcal{M}29 \models 9, 30, 200, 214, 290, 291,$ and 295, but 3, 32, 91, 118, 151, 163, 350, and 357 are false. References Pincus [1974a], [1978], [1997], Brunner [1982a], notes 18, 64, and 120(16 and 43).

(A minimal list of forms implying each form known to be true in the model: 200, 214, 290, 291, 295.

A minimal list of forms at least one of which is implied by each form known to be false in the model: 3, 91, 118, 151, 163, 350, 357.

A list of all forms known to be true in the model: 0, 4, 9, 10, 11, 12, 13, 17, 18, 30, 33, 45, 46, 47, 48, 57, 61, 62, 64, 73, 75, 76, 80, 82, 83, 84, 88, 93, 98, 102, 111, 120, 121, 122, 124, 127, 128, 131, 132, 140, 142, 146, 152, 167, 173, 178, 185, 198, 199, 200, 214, 216, 217, 249, 250, 268, 269, 276, 280, 283, 285, 288, 290, 291, 293, 295, 296, 304, 308, 325, 327, 336, 342, 358, 373, 374, 376, 377, 378, 387, 389, 390, 401, 404, 405, 423, 425, (430).

A list of all forms known to be false in the model: 1, 2, 3, 8, 15, 16, 20, 21, 23, 27, 28, 29, 31, 32, 39, 40, 43, 44, 60, 66, 67, 85, 86, 87, 89, 90, 91, 95, 100, 101, 106, 109, 112, 113, 114, 115, 118, 126, 133, 147, 149, 150, 151, 163, 164, 165, 168, 174, 181, 188, 192, 193, 202, 213, 218, 231, 239, 255, 256, 257, 258, 259, 260, 261, 262, 264, 286, 292, 302, 322, 323, 324, 328, 329, 330, 333, 334, 335, 338, 345, 346, 347, 349, 350, 351, 352, 353, 354, 355, 356, 357, 359, 388, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 402, 403, 407, 421, 426, 427, 430, (430).

$\mathcal{M}30 \models 43, 253,$ and 312, but 163, 223, and 313 are false. References Pincus/Solovay [1977], Brunner [1982a], Howard [1975], and Wagon [1985].

(A minimal list of forms implying each form known to be true in the model: 43, 253, 312.

A minimal list of forms at least one of which is implied by each form known to be false in the model: 163, 223.

A list of all forms known to be true in the model: 0, 5, 6, 8, 9, 10, 11, 12, 13, 16, 17, 18, 19, 24, 26, 27, 29, 31, 32, 34, 35, 38, 42, 43, 57, 64, 73, 74, 77, 78, 80, 82, 83, 84, 94, 98, 104, 106, 108, 113, 119, 124, 126, 127, 128, 131, 132, 150, 154, 155, 167, 182, 185, 194, 198, 199, 209, 211, 216, 217, 243, 249, 253, 279, 282, 288, 296, 304, 312, 325, 336, 338, 339, 340, 341, 342, 350, 351, 352, 353, 354, 355, 357, 358, 361, 362, 373, 374, 375, 376, 377, 378, 379, 380, 387, 388, 389, 390, 404, 411, 412, 418, 419, 420, 423, (430).

A list of all forms known to be false in the model: 1, 14, 28, 50, 52, 63, 66, 67, 70, 79, 89, 90, 91, 95, 99, 109, 112, 114, 123, 130, 133, 147, 149, 163, 164, 202, 206, 218, 221, 222, 223, 225, 239, 264, 287, 292, 303, 311, 313, 317, 333, 334, 335, 345, 384, 385, 391, 407, 427, 430, (430).

In $\mathcal{M}31$, forms 91 and 230 are false. References Szczepaniak [1977], notes 18 and 82.

(A minimal list of forms implying each form known to be true in the model: 0.

A minimal list of forms at least one of which is implied by each form known to be false in the model: 91, 230.

A list of all forms known to be true in the model: 0, (430).

A list of all forms known to be false in the model: 1, 28, 66, 67, 89, 90, 91, 95, 109, 112, 114, 133, 147, 149, 164, 202, 218, 230, 239, 264, 292, 333, 334, 335, 391, 427, 430, (430).

$\mathcal{M}32 \models 30, 57,$ and 62, but 9, 91, 126, 133, and 328 are false. References Sageev [1981], notes 18 and 120(9).

(A minimal list of forms implying each form known to be true in the model: 30, 57.

A minimal list of forms at least one of which is implied by each form known to be false in the model: 9, 91, 126.

A list of all forms known to be true in the model: 0, 10, 11, 12, 18, 30, 33, 45, 46, 47, 48, 57, 61, 62, 64, 73, 80, 83, 88, 93, 102, 111, 120, 121, 122, 127, 132, 140, 142, 146, 178, 198, 216, 249, 250, 268, 269, 276, 280, 283, 285, 288, 293, 308, 327, 336, 342, 358, 373, 374, 377, 378, 387, 389, 390, 401, 423, (430).

A list of all forms known to be false in the model: 1, 2, 3, 4, 7, 8, 9, 20, 28, 39, 40, 41, 43, 44, 66, 67, 71, 86, 87, 89, 90, 91, 95, 100, 101, 106, 109, 112, 113, 114, 126, 129, 133, 147, 149, 152, 161, 164, 168, 174,

181, 188, 192, 193, 202, 214, 218, 239, 255, 256, 257, 258, 259, 260, 261, 262, 264, 286, 292, 328, 333, 334, 335, 345, 346, 347, 359, 388, 391, 407, 426, 427, 430, (430).)

In $\mathcal{M}33$, forms 9, 88, 91, 247 and 248 are false. References Plotkin [1969], [1976], and note 18.

(A minimal list of forms implying each form known to be true in the model: 0.

A minimal list of forms at least one of which is implied by each form known to be false in the model: 9, 88, 91, 247, 248.

A list of all forms known to be true in the model: 0, (430).

A list of all forms known to be false in the model: 1, 2, 3, 4, 7, 8, 9, 14, 15, 20, 28, 30, 36, 39, 40, 41, 43, 44, 49, 50, 60, 61, 62, 66, 67, 68, 71, 85, 86, 87, 88, 89, 90, 91, 95, 100, 101, 107, 109, 112, 113, 114, 123, 129, 133, 147, 149, 152, 161, 164, 168, 174, 181, 192, 201, 202, 213, 214, 218, 239, 247, 248, 255, 256, 257, 258, 259, 260, 261, 262, 264, 270, 284, 286, 292, 295, 303, 317, 323, 326, 331, 332, 333, 334, 335, 343, 344, 345, 347, 359, 384, 391, 399, 407, 408, 409, 426, 427, 430, (430).)

$\mathcal{M}34 \models 15, 30$ and 85, but 91, 133, 163, 165, 213, and 330 are false. References Pincus [1977a], notes 74 and 120(6 and 30).

(A minimal list of forms implying each form known to be true in the model: 15, 85.

A minimal list of forms at least one of which is implied by each form known to be false in the model: 91, 163, 213, 330.

A list of all forms known to be true in the model: 0, 5, 10, 11, 12, 15, 18, 30, 32, 33, 38, 45, 46, 47, 48, 61, 62, 64, 73, 80, 82, 83, 84, 85, 88, 93, 102, 108, 111, 119, 120, 121, 122, 127, 132, 140, 142, 146, 150, 167, 178, 198, 216, 249, 250, 268, 269, 270, 271, 276, 280, 283, 285, 288, 293, 295, 296, 308, 314, 322, 323, 324, 327, 336, 342, 349, 350, 355, 356, 357, 358, 373, 374, 376, 377, 378, 379, 387, 389, 390, 401, 404, 423, (430).

A list of all forms known to be false in the model: 1, 20, 28, 40, 60, 66, 67, 89, 90, 91, 95, 100, 101, 109, 112, 114, 133, 147, 149, 163, 164, 165, 168, 202, 213, 218, 231, 239, 255, 256, 257, 258, 259, 260, 261, 262, 264, 286, 292, 302, 328, 329, 330, 333, 334, 335, 347, 359, 391, 392, 393, 394, 395, 396, 397, 427, 430, (430).)

$\mathcal{M}35(\epsilon) \models 144$ and $179(\epsilon)$, but 91 and $179(\beta)$, $\beta < \epsilon$, are false. References David [1980], notes 18 and 25.

(A minimal list of forms implying each form known to be true in the model: 179.

A minimal list of forms at least one of which is implied by each form known to be false in the model: 91, 179.

A list of all forms known to be true in the model: 0, 125, 144, 179, 413, 414, 415, 416, (430).

A list of all forms known to be false in the model: 1, 28, 66, 67, 89, 90, 91, 95, 109, 112, 114, 133, 147, 149, 164, 179, 202, 218, 239, 264, 292, 333, 334, 335, 391, 427, 430, (430).)

$\mathcal{M}36 \models 170$, but 6, 34 and 91 are false. References Figura [1981], Howard/Keremedis/Rubin/Stanley/Tachtsis [1999], notes 3 and 18.

(A minimal list of forms implying each form known to be true in the model: 170.

A minimal list of forms at least one of which is implied by each form known to be false in the model: 6, 34.

A list of all forms known to be true in the model: 0, 93, 170, (430).

A list of all forms known to be false in the model: 1, 6, 8, 16, 20, 21, 23, 25, 27, 28, 29, 31, 34, 39, 40, 43, 44, 51, 66, 67, 79, 86, 87, 89, 90, 91, 92, 94, 95, 100, 101, 106, 109, 112, 113, 114, 126, 130, 133, 147, 149, 164, 168, 172, 174, 181, 188, 192, 193, 202, 203, 211, 212, 218, 239, 245, 255, 256, 257, 258, 259, 260, 261, 262, 264, 286, 292, 302, 328, 333, 334, 335, 337, 345, 346, 347, 352, 359, 381, 388, 391, 392, 394, 407, 418, 419, 420, 424, 426, 427, 430, (430).)

$\mathcal{M}37 \models 371$ but 64, 88, and 91 are false. References Monroe [1972], Morillon [1993], and note 18.

(A minimal list of forms implying each form known to be true in the model: 371.

A minimal list of forms at least one of which is implied by each form known to be false in the model: 64, 91.

A list of all forms known to be true in the model: 0, 371, (430).

A list of all forms known to be false in the model: 1, 2, 3, 4, 7, 8, 9, 11, 12, 14, 15, 20, 28, 30, 36, 39, 40, 41, 43, 44, 45, 49, 50, 57, 60, 61, 62, 64, 66, 67, 68, 71, 82, 83, 85, 86, 87, 88, 89, 90, 91, 95, 100, 101, 106, 107, 109, 112, 113, 114, 123, 126, 129, 133, 147, 149, 152, 161, 164, 168, 174, 181, 188, 192, 193, 201, 202, 213, 214, 215, 218, 239, 255, 256, 257, 258, 259, 260, 261, 262, 264, 270, 284, 286, 292, 295, 296, 303,

317, 323, 326, 328, 331, 332, 333, 334, 335, 336, 343, 344, 345, 346, 347, 359, 376, 377, 378, 384, 387, 388, 391, 399, 407, 408, 409, 426, 427, 430, (430).)

$\mathcal{M}38 \models 43, 142,$ and $169,$ but 93 and 163 are false. References Shelah [1985], Solovay [1970], and Brunner [1982a].

(A minimal list of forms implying each form known to be true in the model: $43, 142, 169.$

A minimal list of forms at least one of which is implied by each form known to be false in the model: $93, 163.$

A list of all forms known to be true in the model: $0, 5, 6, 8, 9, 10, 11, 12, 13, 16, 17, 18, 19, 24, 26, 27, 29, 31, 32, 34, 35, 38, 42, 43, 57, 64, 73, 74, 77, 78, 80, 82, 83, 84, 94, 98, 104, 106, 108, 113, 119, 124, 126, 127, 128, 131, 132, 142, 150, 154, 155, 167, 169, 182, 185, 194, 198, 199, 209, 211, 216, 217, 243, 249, 279, 280, 282, 288, 296, 304, 325, 336, 338, 339, 340, 341, 342, 350, 351, 352, 353, 354, 355, 357, 358, 361, 362, 373, 374, 375, 376, 377, 378, 379, 380, 387, 388, 389, 390, 404, 411, 412, 418, 419, 420, 423, (430).$

A list of all forms known to be false in the model: $1, 14, 15, 20, 28, 30, 36, 40, 49, 50, 51, 52, 60, 61, 62, 63, 66, 67, 68, 70, 79, 85, 88, 89, 90, 91, 92, 93, 95, 99, 100, 101, 107, 109, 112, 114, 123, 130, 133, 147, 149, 163, 164, 168, 170, 184, 195, 201, 202, 203, 213, 218, 225, 239, 251, 252, 255, 256, 257, 258, 259, 260, 261, 262, 264, 270, 284, 286, 292, 295, 302, 303, 305, 306, 309, 317, 323, 326, 331, 332, 333, 334, 335, 337, 343, 344, 345, 347, 359, 363, 366, 367, 368, 384, 385, 391, 392, 394, 399, 407, 408, 409, 427, 430, (430).$)

$\mathcal{M}39(\kappa, \lambda) \models 43$ but $91, 163,$ and 307 are false. References Kanovei [1991], Brunner [1982a], and note 18.

(A minimal list of forms implying each form known to be true in the model: $43.$

A minimal list of forms at least one of which is implied by each form known to be false in the model: $163, 307.$

A list of all forms known to be true in the model: $0, 5, 6, 8, 9, 10, 11, 12, 13, 16, 17, 18, 19, 24, 26, 27, 29, 31, 32, 34, 35, 38, 42, 43, 57, 64, 73, 74, 77, 78, 80, 82, 83, 84, 94, 98, 104, 106, 108, 113, 119, 124, 126, 127, 128, 131, 132, 150, 154, 155, 167, 182, 185, 194, 198, 199, 209, 211, 216, 217, 243, 249, 279, 282, 288, 296, 304, 325, 336, 338, 339, 340, 341, 342, 350, 351, 352, 353, 354, 355, 357, 358, 361, 362, 373, 374, 375, 376, 377, 378, 379, 380, 387, 388, 389, 390, 404, 411, 412, 418, 419, 420, 423, (430).$

A list of all forms known to be false in the model: $1, 28, 66, 67, 89, 90, 91, 95, 109, 112, 114, 133, 147, 149, 163, 164, 202, 218, 239, 264, 292, 305, 307, 333, 334, 335, 391, 427, 430, (430).$)

$\mathcal{M}40(\kappa) \models 14, 30, 43, 60, 87(\alpha)$ for $\aleph_\alpha < \kappa,$ $165, 295,$ and $345,$ but $51, 91, 144, 152, 163, 253, 286,$ and 384 are false. References Pincus [1977a], [1977b], [1997], Brunner [1982a], Herrlich/Steprans [1997], Morris [1969], notes 18, 120(26, 28, 34, 43, 45, and 59) and 121.

(A minimal list of forms implying each form known to be true in the model: $60, 87, 295, 345.$

A minimal list of forms at least one of which is implied by each form known to be false in the model: $51, 91, 144, 152, 163, 253, 286, 384.$

A list of all forms known to be true in the model: $0, 5, 6, 8, 9, 10, 11, 12, 13, 14, 16, 17, 18, 19, 24, 26, 27, 29, 30, 31, 32, 33, 34, 35, 38, 42, 43, 45, 46, 47, 48, 49, 52, 57, 60, 61, 62, 63, 64, 69, 70, 71, 72, 73, 74, 77, 78, 80, 82, 83, 84, 85, 86, 87, 88, 93, 94, 96, 98, 99, 102, 104, 106, 107, 108, 111, 113, 119, 120, 121, 122, 123, 124, 126, 127, 128, 131, 132, 137, 139, 140, 141, 142, 146, 150, 151, 153, 154, 155, 165, 167, 174, 178, 182, 183, 185, 194, 196, 198, 199, 201, 206, 209, 211, 213, 216, 217, 221, 222, 223, 225, 226, 227, 228, 229, 231, 233, 235, 241, 242, 243, 249, 250, 268, 269, 270, 271, 276, 279, 280, 282, 283, 285, 287, 288, 293, 294, 295, 296, 298, 304, 308, 309, 311, 313, 314, 323, 324, 325, 326, 327, 329, 330, 331, 332, 336, 338, 339, 340, 341, 342, 343, 344, 345, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 361, 362, 370, 371, 373, 374, 375, 376, 377, 378, 379, 380, 385, 386, 387, 388, 389, 390, 401, 404, 406, 410, 411, 412, 418, 419, 420, 421, 423, (430).$

A list of all forms known to be false in the model: $1, 28, 51, 66, 67, 89, 90, 91, 95, 109, 112, 114, 133, 144, 147, 149, 152, 163, 164, 179, 202, 214, 218, 239, 253, 256, 259, 261, 264, 286, 292, 333, 334, 335, 384, 391, 427, 430, (430).$)

In $\mathcal{M}41,$ form 194 is false. Reference Kanovei [1976].

(A minimal list of forms implying each form known to be true in the model: $0.$

A minimal list of forms at least one of which is implied by each form known to be false in the model: $194.$

A list of all forms known to be true in the model: $0, (430).$

A list of all forms known to be false in the model: 1, 8, 16, 20, 28, 39, 40, 43, 44, 51, 66, 67, 79, 86, 87, 89, 90, 91, 92, 94, 95, 100, 101, 106, 109, 112, 113, 114, 126, 130, 133, 147, 149, 164, 168, 174, 181, 188, 192, 193, 194, 202, 203, 211, 212, 218, 239, 255, 256, 257, 258, 259, 260, 261, 262, 264, 286, 292, 302, 328, 333, 334, 335, 337, 345, 346, 347, 359, 388, 391, 392, 394, 407, 424, 426, 427, 430, (430).

$\mathcal{M}42 \models$ 39 and 86, but 91, 163, and 321 are false. References Bull [1978], Brunner [1982a], notes 18 and 20.
(A minimal list of forms implying each form known to be true in the model: 39, 86.)

A minimal list of forms at least one of which is implied by each form known to be false in the model: 91, 163, 321.

A list of all forms known to be true in the model: 0, 5, 6, 8, 9, 10, 11, 12, 13, 16, 17, 18, 19, 24, 26, 27, 29, 31, 32, 34, 35, 38, 39, 57, 64, 73, 74, 80, 82, 83, 84, 86, 94, 98, 104, 108, 119, 124, 126, 127, 128, 131, 132, 150, 167, 182, 185, 194, 196, 198, 199, 209, 216, 217, 249, 282, 288, 296, 304, 325, 336, 338, 340, 341, 342, 350, 351, 352, 353, 354, 355, 357, 358, 361, 362, 373, 374, 376, 377, 378, 379, 380, 387, 389, 390, 404, 418, 419, 420, 423, (430).

A list of all forms known to be false in the model: 1, 28, 66, 67, 89, 90, 91, 95, 109, 112, 114, 117, 133, 147, 149, 163, 164, 202, 218, 239, 264, 292, 319, 320, 321, 333, 334, 335, 391, 427, 430, (430).

$\mathcal{M}43 \models$ 43, 62 and 214, but 30, 67, 91, 99, 133, 151, 163, 328, and 329 are false. References Pincus [1977a], notes 18 and 120(1, 4, 29, 31, 32, 43, and 48).

(A minimal list of forms implying each form known to be true in the model: 43, 62, 214.)

A minimal list of forms at least one of which is implied by each form known to be false in the model: 30, 91, 99, 151, 163, 328, 329.

A list of all forms known to be true in the model: 0, 4, 5, 6, 8, 9, 10, 11, 12, 13, 16, 17, 18, 19, 24, 26, 27, 29, 31, 32, 33, 34, 35, 38, 42, 43, 45, 46, 47, 48, 57, 61, 62, 64, 73, 74, 75, 76, 77, 78, 80, 82, 83, 84, 88, 93, 94, 98, 102, 104, 106, 108, 111, 113, 119, 120, 121, 122, 124, 126, 127, 128, 131, 132, 140, 142, 146, 150, 152, 154, 155, 167, 173, 178, 182, 185, 194, 198, 199, 209, 211, 214, 216, 217, 243, 249, 250, 268, 269, 276, 279, 280, 282, 283, 285, 288, 296, 304, 308, 325, 327, 336, 338, 339, 340, 341, 342, 350, 351, 352, 353, 354, 355, 357, 358, 361, 362, 373, 374, 375, 376, 377, 378, 379, 380, 387, 388, 389, 390, 401, 404, 405, 411, 412, 418, 419, 420, 423, 425, (430).

A list of all forms known to be false in the model: 1, 14, 15, 20, 21, 23, 28, 30, 40, 49, 50, 60, 66, 67, 89, 90, 91, 95, 99, 100, 101, 109, 112, 114, 133, 147, 149, 151, 163, 164, 168, 202, 218, 231, 239, 255, 256, 257, 258, 259, 260, 261, 262, 264, 286, 292, 295, 303, 317, 328, 329, 333, 334, 335, 345, 347, 359, 384, 391, 407, 427, 430, (430).

$\mathcal{M}44 \models$ 30, 43, 214, and 295, but 15, 67, 91, 118, 133, 151, 163, 328, and 329 are false. References Pincus [1977a], [1997], notes 18 and 120(1, 4, 16, 31, 32, 43, and 48).

(A minimal list of forms implying each form known to be true in the model: 43, 214, 295.)

A minimal list of forms at least one of which is implied by each form known to be false in the model: 15, 91, 118, 151, 163, 328, 329.

A list of all forms known to be true in the model: 0, 4, 5, 6, 8, 9, 10, 11, 12, 13, 16, 17, 18, 19, 24, 26, 27, 29, 30, 31, 32, 33, 34, 35, 38, 42, 43, 45, 46, 47, 48, 57, 61, 62, 64, 73, 74, 75, 76, 77, 78, 80, 82, 83, 84, 88, 93, 94, 98, 102, 104, 106, 108, 111, 113, 119, 120, 121, 122, 124, 126, 127, 128, 131, 132, 140, 142, 146, 150, 152, 154, 155, 167, 173, 178, 182, 185, 194, 198, 199, 209, 211, 214, 216, 217, 243, 249, 250, 268, 269, 276, 279, 280, 282, 283, 285, 288, 293, 295, 296, 304, 308, 325, 327, 336, 338, 339, 340, 341, 342, 350, 351, 352, 353, 354, 355, 357, 358, 361, 362, 373, 374, 375, 376, 377, 378, 379, 380, 387, 388, 389, 390, 401, 404, 405, 411, 412, 418, 419, 420, 423, 425, (430).

A list of all forms known to be false in the model: 1, 15, 20, 21, 23, 28, 40, 60, 66, 67, 89, 90, 91, 95, 100, 101, 109, 112, 114, 115, 118, 133, 147, 149, 151, 163, 164, 168, 202, 218, 231, 239, 255, 256, 257, 258, 259, 260, 261, 262, 264, 286, 292, 328, 329, 333, 334, 335, 347, 359, 391, 427, 430, (430).

$\mathcal{M}45 \models$ 30, 43, 214, and 295, but 49, 67, 91, 99, 133, 151, 163, 328, and 329 are false. References Pincus [1977a], [1997], notes 18 and 120(1, 4, 29, 31, 32, 43, and 48).

(A minimal list of forms implying each form known to be true in the model: 43, 214, 295.)

A minimal list of forms at least one of which is implied by each form known to be false in the model: 49, 91, 99, 151, 163, 328, 329.

A list of all forms known to be true in the model: 0, 4, 5, 6, 8, 9, 10, 11, 12, 13, 16, 17, 18, 19, 24, 26, 27, 29, 30, 31, 32, 33, 34, 35, 38, 42, 43, 45, 46, 47, 48, 57, 61, 62, 64, 73, 74, 75, 76, 77, 78, 80, 82, 83, 84,

88, 93, 94, 98, 102, 104, 106, 108, 111, 113, 119, 120, 121, 122, 124, 126, 127, 128, 131, 132, 140, 142, 146, 150, 152, 154, 155, 167, 173, 178, 182, 185, 194, 198, 199, 209, 211, 214, 216, 217, 243, 249, 250, 268, 269, 276, 279, 280, 282, 283, 285, 288, 293, 295, 296, 304, 308, 325, 327, 336, 338, 339, 340, 341, 342, 350, 351, 352, 353, 354, 355, 357, 358, 361, 362, 373, 374, 375, 376, 377, 378, 379, 380, 387, 388, 389, 390, 401, 404, 405, 411, 412, 418, 419, 420, 423, 425, (430).

A list of all forms known to be false in the model: 1, 14, 20, 21, 23, 28, 40, 49, 50, 60, 66, 67, 89, 90, 91, 95, 99, 100, 101, 109, 112, 114, 133, 147, 149, 151, 163, 164, 168, 202, 218, 231, 239, 255, 256, 257, 258, 259, 260, 261, 262, 264, 286, 292, 303, 317, 328, 329, 333, 334, 335, 345, 347, 359, 384, 391, 407, 427, 430, (430).

$\mathcal{M}46(n, M) \models 43, 46(M)$, and 214, but $45(n)$, 91, 133, 151, 163, and 329 are false. References Pincus [1974b], [1977a], notes 18 and 120(1, 4, 43, and 48).

(A minimal list of forms implying each form known to be true in the model: 43, 46, 214.

A minimal list of forms at least one of which is implied by each form known to be false in the model: 45, 91, 151, 163, 329.

A list of all forms known to be true in the model: 0, 4, 5, 6, 8, 9, 10, 11, 12, 13, 16, 17, 18, 19, 24, 26, 27, 29, 31, 32, 34, 35, 38, 42, 43, 46, 48, 57, 64, 73, 74, 75, 76, 77, 78, 80, 82, 83, 84, 94, 98, 104, 106, 108, 113, 119, 120, 124, 126, 127, 128, 131, 132, 150, 152, 154, 155, 167, 173, 182, 185, 194, 198, 199, 209, 211, 214, 216, 217, 243, 249, 279, 282, 288, 296, 304, 325, 336, 338, 339, 340, 341, 342, 350, 351, 352, 353, 354, 355, 357, 358, 361, 362, 373, 374, 375, 376, 377, 378, 379, 380, 387, 388, 389, 390, 404, 405, 411, 412, 418, 419, 420, 423, 425, (430).

A list of all forms known to be false in the model: 1, 14, 15, 20, 21, 23, 28, 30, 36, 40, 45, 49, 50, 60, 61, 62, 66, 67, 68, 85, 89, 90, 91, 95, 100, 101, 107, 109, 112, 114, 123, 133, 147, 149, 151, 163, 164, 168, 202, 213, 218, 231, 239, 255, 256, 257, 258, 259, 260, 261, 262, 264, 270, 284, 286, 292, 295, 303, 317, 323, 329, 331, 332, 333, 334, 335, 343, 344, 345, 347, 359, 384, 391, 399, 407, 408, 409, 427, 430, (430).

$\mathcal{M}47(n, M) \models 43, 46(\neg M)$, 63, and 214, but $46(n \in K)$, $47(n)$, 91, 163, 329, and 344 are false. References Pincus [1977a], Brunner [1982a], and notes 18 and 120(48 and 56).

(A minimal list of forms implying each form known to be true in the model: 43, 46, 63, 214.

A minimal list of forms at least one of which is implied by each form known to be false in the model: 46, 47, 91, 163, 329.

A list of all forms known to be true in the model: 0, 4, 5, 6, 8, 9, 10, 11, 12, 13, 16, 17, 18, 19, 24, 26, 27, 29, 31, 32, 34, 35, 38, 42, 43, 46, 48, 57, 63, 64, 70, 73, 74, 75, 76, 77, 78, 80, 82, 83, 84, 93, 94, 98, 104, 106, 108, 113, 119, 120, 124, 126, 127, 128, 131, 132, 142, 150, 152, 154, 155, 167, 173, 182, 185, 194, 198, 199, 206, 209, 211, 214, 216, 217, 221, 222, 223, 243, 249, 279, 280, 282, 288, 296, 304, 325, 336, 338, 339, 340, 341, 342, 350, 351, 352, 353, 354, 355, 357, 358, 361, 362, 373, 374, 375, 376, 377, 378, 379, 380, 387, 388, 389, 390, 404, 405, 411, 412, 418, 419, 420, 423, 425, (430).

A list of all forms known to be false in the model: 1, 14, 15, 20, 21, 23, 28, 30, 33, 36, 40, 45, 46, 47, 49, 50, 60, 61, 62, 66, 67, 68, 85, 89, 90, 91, 95, 100, 101, 107, 109, 112, 114, 121, 122, 123, 133, 147, 149, 151, 163, 164, 165, 168, 202, 213, 218, 231, 239, 250, 255, 256, 257, 258, 259, 260, 261, 262, 264, 270, 284, 286, 292, 295, 302, 303, 317, 322, 323, 324, 327, 329, 331, 332, 333, 334, 335, 343, 344, 345, 347, 359, 384, 391, 392, 393, 394, 398, 399, 400, 401, 402, 403, 407, 408, 409, 422, 427, 430, (430).