

	1	A2	O3	R4	H	5	E6	T7	U	8	C9	D10	J11	A12	E13	U	14	U15	M16	C17	B18	J19	F20	A21	R22	S23	E	24	J		
25	E26	R27	B28	S29	A	30	N31	G32	X	33	I34	S35	D36	M37	E	38	V39	A40	C41	M42	L	43	K44	S45	G46	R47	B48	A	49	A	
50	W51	U52	Q	53	D54	T	55	U56	P57	A	58	X59	S60	J	61	C62	H63	Q64	U65	V66	A67	W68	R	69	E70	D71	S72	L	73	P74	M
75	Q76	C77	A78	S79	F80	R	81	V82	Q83	B	84	Q85	J86	D87	O88	W89	L	90	N	91	R92	M93	G94	I95	P96	A	97	N98	T99	A	
100	U101	D102	R103	G104	J105	O	106	C107	B108	A109	R110	H111	N112	D113	V114	U115	J116	F117	O118	M	119	H120	N121	R122	T123	U124	B125	D	126	D	
127	M128	X129	H130	B131	A132	K133	U	134	S135	A136	U	137	M138	G139	X	140	S141	P142	C143	T144	A	145	E146	T147	C148	O149	J	150	C151	V	
152	U153	I154	J155	G156	B157	M158	S159	K160	A161	H	162	D163	T164	H165	Q166	M	167	A168	E169	F170	T	171	M172	R173	U	174	Q175	W176	U177	D	
178	A179	L	180	R181	K182	W183	S	184	T185	W	186	G187	X188	I189	P190	F191	C	192	O193	P	194	S195	U196	X197	L198	E199	A200	C201	J		
202	K203	G204	M	205	D206	A207	C208	L	209	R210	S211	G212	A	213	U214	J	215	L216	X217	F	218	O	219	M220	S221	D222	G223	I224	V225	J	
226	W227	A228	P	229	D230	U231	I232	C233	J234	X235	R236	P	237	N238	R239	E240	B	241	P	242	N243	C244	I245	D246	H247	P	248	B249	S250	Q	
251	M252	R253	D254	N	255	D	256	T257	V258	R259	K260	B	261	T262	K263	S264	A	265	V266	A267	X268	B269	R270	S	271	N272	P273	U274	T		
275	P276	H277	C	278	B279	J	280	E281	P282	A283	D284	S285	R286	G287	M288	N289	U290	T291	W292	V	293	N294	L295	Q296	J297	U298	H				

A. Description of a cosmological theory that uses epicycles (6,2,6,6,6)

29 57 144 167 227 11 66 108 99 135 264 266 131 20 49 77 178 206 282

199 1 39 48 96 160 212

B. The brightest star in the Dolphin (5,8)

278 47 268 240 130 83 17 124 248 260 156 107 27

C. M13, for example (8,7)

200 16 40 61 147 232 243 277 8 76 106 150 191 207 142

D. World’s largest radio dish (7,11)

162 35 70 86 112 229 283 9 255 101 177 53 253 126 205 221 245 125

E. Maybe later? (3,4,4)

23 12 5 37 168 280 145 239 198 69 25

F. Double, usually co-orbiting (6)

116 19 79 169 190 217

G. Inventor of the reflecting telescope (5,6)

211 203 103 31 155 286 186 138 93 45 222

H. Brightness (10)

246 129 119 62 4 276 110 164 298 161

I. What happens at t minus zero (7)

231 244 188 94 223 153 33

J. Outmoded term for other galaxies (6,9)

154 10 104 115 225 149 201 279 233 18 85 60 214 296 24

K. Visual (7)

262 43 159 202 259 181 132

L. Sky-sweeper’s lucky discovery (3,5)

42 89 215 294 179 208 72 197

M. How to change the magnification of a telescope (6,9)

251 41 92 137 287 204 15 171 166 219 74 157 127 118 36

N. What a red giant may evolve into (1,5,5)

90 30 111 120 271 254 97 237 293 288 242

O. Part of an ancient observatory, perhaps (7)

148 105 87 117 218 192 2

P. What an ocean-impacting meteor might cause (8,5)

281 141 189 73 236 228 241 247 275 95 193 272 56

Q. Gravitational singularity (5,4)

84 63 82 295 165 174 250 75 52

R. How van Gogh painted the sky (19)

252 180 46 26 3 80 121 238 172 235 21 68 209 258 102 109 91 269 285

S. Annual November event (6,6,6)

249 28 78 158 34 194 263 183 134 270 22 220 284 210 59 140 44 71

T. What an astronomer whose heating element has failed does (5,2,3,3)

163 146 98 274 261 184 290 170 6 54 143 122 256

U. Modern cosmological model created by Alan Guth (12,8)

213 297 152 64 289 14 195 273 100 55 123 133 173 114 230 176 7 51 13

V. The Serpent Bearer (9)

113 265 81 65 151 292 257 224 38

W. “Dog Star” or “Red Planet” for example (8)

185 291 226 182 67 175 88 50

X. Launches (6,3)

32 216 234 267 128 196 139 58 187