Anti-logarithm table for $\mathrm{GF}(256)$ with irreducible polynomial 283 (0x11B)

by Cody Planteen; https://codyplanteen.com/notes/rs; June 24, 2019

 $F(x) = x^8 + x^4 + x^3 + x + 1, \, \alpha = x + 1 = \text{ 3 = 0x03}$

| \overline{j} | α^{j} | j | α^{j} | j | α^{j} | j | α^{j} | j | α^{j} | j | α^{j} | j | α^{j} |
|----------------|--------------|----------------|--------------|-----|--------------------|-----|--------------|-----|--------------|-----|--------------|-----|------------------|
| 0 | 1 | $\frac{3}{37}$ | 89 | 74 | 241 | 111 | 163 | 148 | 71 | 185 | 37 | 222 | 243 |
| 1 | 3 | 38 | 235 | 75 | 8 | 112 | 254 | 149 | 201 | 186 | 111 | 223 | $\frac{243}{14}$ |
| 2 | 5 | 39 | 38 | 76 | $\frac{\circ}{24}$ | 113 | 25 | 150 | 64 | 187 | 177 | 224 | 18 |
| 3 | 15 | 40 | 106 | 77 | 40 | 114 | 43 | 151 | 192 | 188 | 200 | 225 | 54 |
| 4 | 17 | 41 | 190 | 78 | 120 | 115 | 125 | 152 | 91 | 189 | 67 | 226 | 90 |
| 5 | 51 | 42 | 217 | 79 | 136 | 116 | 135 | 153 | 237 | 190 | 197 | 227 | 238 |
| 6 | 85 | 43 | 112 | 80 | 131 | 117 | 146 | 154 | 44 | 191 | 84 | 228 | 41 |
| 7 | 255 | 44 | 144 | 81 | 158 | 118 | 173 | 155 | 116 | 192 | 252 | 229 | 123 |
| 8 | 26 | 45 | 171 | 82 | 185 | 119 | 236 | 156 | 156 | 193 | 31 | 230 | 141 |
| 9 | 46 | 46 | 230 | 83 | 208 | 120 | 47 | 157 | 191 | 194 | 33 | 231 | 140 |
| 10 | 114 | 47 | 49 | 84 | 107 | 121 | 113 | 158 | 218 | 195 | 99 | 232 | 143 |
| 11 | 150 | 48 | 83 | 85 | 189 | 122 | 147 | 159 | 117 | 196 | 165 | 233 | 138 |
| 12 | 161 | 49 | 245 | 86 | 220 | 123 | 174 | 160 | 159 | 197 | 244 | 234 | 133 |
| 13 | 248 | 50 | 4 | 87 | 127 | 124 | 233 | 161 | 186 | 198 | 7 | 235 | 148 |
| 14 | 19 | 51 | 12 | 88 | 129 | 125 | 32 | 162 | 213 | 199 | 9 | 236 | 167 |
| 15 | 53 | 52 | 20 | 89 | 152 | 126 | 96 | 163 | 100 | 200 | 27 | 237 | 242 |
| 16 | 95 | 53 | 60 | 90 | 179 | 127 | 160 | 164 | 172 | 201 | 45 | 238 | 13 |
| 17 | 225 | 54 | 68 | 91 | 206 | 128 | 251 | 165 | 239 | 202 | 119 | 239 | 23 |
| 18 | 56 | 55 | 204 | 92 | 73 | 129 | 22 | 166 | 42 | 203 | 153 | 240 | 57 |
| 19 | 72 | 56 | 79 | 93 | 219 | 130 | 58 | 167 | 126 | 204 | 176 | 241 | 75 |
| 20 | 216 | 57 | 209 | 94 | 118 | 131 | 78 | 168 | 130 | 205 | 203 | 242 | 221 |
| 21 | 115 | 58 | 104 | 95 | 154 | 132 | 210 | 169 | 157 | 206 | 70 | 243 | 124 |
| 22 | 149 | 59 | 184 | 96 | 181 | 133 | 109 | 170 | 188 | 207 | 202 | 244 | 132 |
| 23 | 164 | 60 | 211 | 97 | 196 | 134 | 183 | 171 | 223 | 208 | 69 | 245 | 151 |
| 24 | 247 | 61 | 110 | 98 | 87 | 135 | 194 | 172 | 122 | 209 | 207 | 246 | 162 |
| 25 | 2 | 62 | 178 | 99 | 249 | 136 | 93 | 173 | 142 | 210 | 74 | 247 | 253 |
| 26 | 6 | 63 | 205 | 100 | 16 | 137 | 231 | 174 | 137 | 211 | 222 | 248 | 28 |
| 27 | 10 | 64 | 76 | 101 | 48 | 138 | 50 | 175 | 128 | 212 | 121 | 249 | 36 |
| 28 | 30 | 65 | 212 | 102 | 80 | 139 | 86 | 176 | 155 | 213 | 139 | 250 | 108 |
| 29 | 34 | 66 | 103 | 103 | 240 | 140 | 250 | 177 | 182 | 214 | 134 | 251 | 180 |
| 30 | 102 | 67 | 169 | 104 | 11 | 141 | 21 | 178 | 193 | 215 | 145 | 252 | 199 |
| 31 | 170 | 68 | 224 | 105 | 29 | 142 | 63 | 179 | 88 | 216 | 168 | 253 | 82 |
| 32 | 229 | 69 | 59 | 106 | 39 | 143 | 65 | 180 | 232 | 217 | 227 | 254 | 246 |
| 33 | 52 | 70 | 77 | 107 | 105 | 144 | 195 | 181 | 35 | 218 | 62 | * | 0 |
| 34 | 92 | 71 | 215 | 108 | 187 | 145 | 94 | 182 | 101 | 219 | 66 | | |
| 35 | 228 | 72 | 98 | 109 | 214 | 146 | 226 | 183 | 175 | 220 | 198 | | |
| 36 | 55 | 73 | 166 | 110 | 97 | 147 | 61 | 184 | 234 | 221 | 81 | | |

Logarithm table for GF(256) with irreducible polynomial 283 (0x11B)

by Cody Planteen; https://codyplanteen.com/notes/rs; June 24, 2019

$$F(x) = x^8 + x^4 + x^3 + x + 1, \, \alpha = x + 1 = {\rm 3 = 0x03}$$

Example: $35 \cdot 36 = \alpha^{181} \alpha^{249} = \alpha^{430} = \alpha^{430 \mod 255} = \alpha^{175} = 128$

| $\frac{1}{\alpha^j}$ | j | α^{j} | j | α^{j} | i | α^{j} | i | α^{j} | j | α^{j} | j | α^{j} | j |
|----------------------|-------------------|---|-------------------|--------------|-------------------|-------------------|-------------------|--------------|--|-------------------|-------------------|-------------------|-------------------|
| | * | | | | $\frac{j}{210}$ | | $\frac{j}{100}$ | | | | | | |
| 0 | | 37 | 185 | 74 | 210 | 111 112 | 186 | 148 | 235 | 185 | 82 | 222 | 211 |
| 1 | 0 | 38 | 39 | 75 | 241 | | 43 | 149 | 22 | 186 | 161 | 223 | 171 |
| 2 3 | 25 1 | 39 40 | 106 | 76 77 | 64 70 | 113 | 121 | 150 151 | $\begin{array}{c} 11 \\ 245 \end{array}$ | 187 188 | 108 170 | $\frac{224}{225}$ | 68 17 |
| | | | 77 228 | | 131 | 114 | 10 | | | 189 | | $\frac{225}{226}$ | |
| 4 | $\frac{50}{2}$ | $\begin{array}{c} 41 \\ 42 \end{array}$ | $\frac{228}{166}$ | 78 70 | 131 56 | 115 116 | 21 155 | $152 \\ 153$ | 89 203 | | 85 | $\frac{220}{227}$ | $\frac{146}{217}$ |
| 5 6 | $\frac{2}{26}$ | 43 | 114 | 79 | 102 | 110 117 | 159 | 153 154 | $\frac{205}{95}$ | 190 191 | 41 157 | 228 | 35 |
| 7 | 20 198 | 43 44 | $114 \\ 154$ | 80 | $\frac{102}{221}$ | 117 | 159 94 | 154 155 | 95 176 | 191 | 151 | $\frac{228}{229}$ | 32 |
| 8 | 198 75 | $\frac{44}{45}$ | $\frac{134}{201}$ | 81 82 | $\frac{221}{253}$ | 118 | | | | 192 193 | | $\frac{229}{230}$ | 32 46 |
| 9 | 199 | 46 | 201 9 | 83 | 255 48 | 119 | 202 78 | $156 \\ 157$ | 156 169 | 193 194 | 178 135 | $\frac{230}{231}$ | $\frac{40}{137}$ |
| | 199 27 | $\frac{40}{47}$ | 9 120 | 84 | 48 191 | $\frac{120}{121}$ | 212 | | 81 | 194 195 | $133 \\ 144$ | $\frac{231}{232}$ | 180 |
| 10 11 | 104 | 48 | 120 101 | 85 | 6 | $\frac{121}{122}$ | $\frac{212}{172}$ | 158 159 | 160 | 196 | 97 | 232 233 | 124 |
| 12 | 51 | 49 | 47 | 86 | 139 | $\frac{122}{123}$ | $\frac{172}{229}$ | 160 | 127 | 190 | 190 | 233 234 | 184 |
| 13 | $\frac{31}{238}$ | 50 | 138 | 87 | 98 | $\frac{123}{124}$ | $\frac{229}{243}$ | 161 | 127 | 197 | $\frac{190}{220}$ | $\frac{234}{235}$ | 38 |
| 13 14 | $\frac{236}{223}$ | 50 51 | 130 5 | 88 | 98 179 | $\frac{124}{125}$ | $\frac{245}{115}$ | 161 162 | $\frac{12}{246}$ | 198 | $\frac{220}{252}$ | $\frac{236}{236}$ | 38 119 |
| 14 15 | 3 | 51 | 33 | 89 | 37 | $\frac{125}{126}$ | 167 | 162 163 | 111 | 200 | 188 | $\frac{230}{237}$ | 153 |
| 16 | 100 | $\frac{52}{53}$ | 35 15 | 90 | 226 | $\frac{120}{127}$ | 87 | 163 164 | $\frac{111}{23}$ | 200 | 149 | 238 | $\frac{133}{227}$ |
| 17 | 4 | 54 | $\frac{15}{225}$ | 91 | 152 | 128 | 175 | 165 | $\frac{23}{196}$ | 201 | $\frac{149}{207}$ | $\frac{230}{239}$ | 165 |
| 18 | 224 | 55 | 36 | 92 | $\frac{132}{34}$ | 129 | 88 | 166 | 73 | 202 | 205 | $\frac{239}{240}$ | 103 |
| 19 | $\frac{224}{14}$ | 56 | 18 | 93 | 136 | 130 | 168 | 167 | 236 | $\frac{203}{204}$ | 55 | $\frac{240}{241}$ | 74 |
| 20 | 52 | 57 | $\frac{10}{240}$ | 94 | 145 | 131 | 80 | 168 | 216 | $\frac{204}{205}$ | 63 | $\frac{241}{242}$ | 237 |
| 21 | 141 | 58 | 130 | 95 | 16 | 132 | $\frac{244}{244}$ | 169 | 67 | 206 | 91 | 243 | 222 |
| 22 | 129 | 59 | 69 | 96 | 126 | 133 | 234 | 170 | 31 | 207 | 209 | 244 | 197 |
| 23 | 239 | 60 | 53 | 97 | 110 | 134 | 214 | 171 | 45 | 208 | 83 | 245 | 49 |
| $\frac{20}{24}$ | 76 | 61 | 147 | 98 | 72 | 135 | 116 | 172 | 164 | 209 | 57 | 246 | 254 |
| $\frac{21}{25}$ | 113 | 62 | 218 | 99 | 195 | 136 | 79 | 173 | 118 | 210 | 132 | $\frac{247}{247}$ | 24 |
| $\frac{26}{26}$ | 8 | 63 | 142 | 100 | 163 | 137 | 174 | 174 | 123 | 211 | 60 | 248 | 13 |
| $\frac{25}{27}$ | 200 | 64 | 150 | 101 | 182 | 138 | 233 | 175 | 183 | 212 | 65 | 249 | 99 |
| 28 | 248 | 65 | 143 | 102 | 30 | 139 | 213 | 176 | 204 | 213 | 162 | 250 | 140 |
| 29 | 105 | 66 | 219 | 103 | 66 | 140 | 231 | 177 | 187 | 214 | 109 | 251 | 128 |
| 30 | 28 | 67 | 189 | 104 | 58 | 141 | 230 | 178 | 62 | 215 | 71 | 252 | 192 |
| 31 | 193 | 68 | 54 | 105 | 107 | 142 | 173 | 179 | 90 | 216 | 20 | 253 | 247 |
| 32 | 125 | 69 | 208 | 106 | 40 | 143 | 232 | 180 | 251 | 217 | 42 | 254 | 112 |
| 33 | 194 | 70 | 206 | 107 | 84 | 144 | 44 | 181 | 96 | 218 | 158 | 255 | 7 |
| 34 | 29 | 71 | 148 | 108 | 250 | 145 | 215 | 182 | 177 | 219 | 93 | | |
| 35 | 181 | 72 | 19 | 109 | 133 | 146 | 117 | 183 | 134 | 220 | 86 | | |
| 36 | 249 | 73 | 92 | 110 | 61 | 147 | 122 | 184 | 59 | $\frac{-2}{221}$ | 242 | | |

Anti-logarithm table for $\mathrm{GF}(256)$ with primitive, irreducible polynomial 285 (0x11D)

by Cody Planteen; https://codyplanteen.com/notes/rs; June 24, 2019

 $F(x) = x^8 + x^4 + x^3 + x^2 + 1, \, \alpha = x + 0 = \text{ 2 = 0x02}$

| \overline{j} | α^{j} | j | α^{j} | j | α^{j} | \overline{j} | α^{j} | j | α^{j} | j | α^{j} | j | α^{j} |
|----------------|--------------|----------------|--------------|----------------|--------------|----------------|--------------|-----|--------------|-----|--------------|-----|--------------|
| 0 | 1 | $\frac{3}{37}$ | 74 | $\frac{J}{74}$ | 137 | 111 | 206 | 148 | 82 | 185 | 55 | 222 | 138 |
| 1 | 2 | 38 | 148 | 75 | 15 | 112 | 129 | 149 | 164 | 186 | 110 | 223 | 9 |
| 2 | 4 | 39 | 53 | 76 | 30 | 113 | 31 | 150 | 85 | 187 | 220 | 224 | 18 |
| 3 | 8 | 40 | 106 | 77 | 60 | 114 | 62 | 151 | 170 | 188 | 165 | 225 | 36 |
| 4 | 16 | 41 | 212 | 78 | 120 | 115 | 124 | 152 | 73 | 189 | 87 | 226 | 72 |
| 5 | 32 | 42 | 181 | 79 | 240 | 116 | 248 | 153 | 146 | 190 | 174 | 227 | 144 |
| 6 | 64 | 43 | 119 | 80 | 253 | 117 | 237 | 154 | 57 | 191 | 65 | 228 | 61 |
| 7 | 128 | 44 | 238 | 81 | 231 | 118 | 199 | 155 | 114 | 192 | 130 | 229 | 122 |
| 8 | 29 | 45 | 193 | 82 | 211 | 119 | 147 | 156 | 228 | 193 | 25 | 230 | 244 |
| 9 | 58 | 46 | 159 | 83 | 187 | 120 | 59 | 157 | 213 | 194 | 50 | 231 | 245 |
| 10 | 116 | 47 | 35 | 84 | 107 | 121 | 118 | 158 | 183 | 195 | 100 | 232 | 247 |
| 11 | 232 | 48 | 70 | 85 | 214 | 122 | 236 | 159 | 115 | 196 | 200 | 233 | 243 |
| 12 | 205 | 49 | 140 | 86 | 177 | 123 | 197 | 160 | 230 | 197 | 141 | 234 | 251 |
| 13 | 135 | 50 | 5 | 87 | 127 | 124 | 151 | 161 | 209 | 198 | 7 | 235 | 235 |
| 14 | 19 | 51 | 10 | 88 | 254 | 125 | 51 | 162 | 191 | 199 | 14 | 236 | 203 |
| 15 | 38 | 52 | 20 | 89 | 225 | 126 | 102 | 163 | 99 | 200 | 28 | 237 | 139 |
| 16 | 76 | 53 | 40 | 90 | 223 | 127 | 204 | 164 | 198 | 201 | 56 | 238 | 11 |
| 17 | 152 | 54 | 80 | 91 | 163 | 128 | 133 | 165 | 145 | 202 | 112 | 239 | 22 |
| 18 | 45 | 55 | 160 | 92 | 91 | 129 | 23 | 166 | 63 | 203 | 224 | 240 | 44 |
| 19 | 90 | 56 | 93 | 93 | 182 | 130 | 46 | 167 | 126 | 204 | 221 | 241 | 88 |
| 20 | 180 | 57 | 186 | 94 | 113 | 131 | 92 | 168 | 252 | 205 | 167 | 242 | 176 |
| 21 | 117 | 58 | 105 | 95 | 226 | 132 | 184 | 169 | 229 | 206 | 83 | 243 | 125 |
| 22 | 234 | 59 | 210 | 96 | 217 | 133 | 109 | 170 | 215 | 207 | 166 | 244 | 250 |
| 23 | 201 | 60 | 185 | 97 | 175 | 134 | 218 | 171 | 179 | 208 | 81 | 245 | 233 |
| 24 | 143 | 61 | 111 | 98 | 67 | 135 | 169 | 172 | 123 | 209 | 162 | 246 | 207 |
| 25 | 3 | 62 | 222 | 99 | 134 | 136 | 79 | 173 | 246 | 210 | 89 | 247 | 131 |
| 26 | 6 | 63 | 161 | 100 | 17 | 137 | 158 | 174 | 241 | 211 | 178 | 248 | 27 |
| 27 | 12 | 64 | 95 | 101 | 34 | 138 | 33 | 175 | 255 | 212 | 121 | 249 | 54 |
| 28 | 24 | 65 | 190 | 102 | 68 | 139 | 66 | 176 | 227 | 213 | 242 | 250 | 108 |
| 29 | 48 | 66 | 97 | 103 | 136 | 140 | 132 | 177 | 219 | 214 | 249 | 251 | 216 |
| 30 | 96 | 67 | 194 | 104 | 13 | 141 | 21 | 178 | 171 | 215 | 239 | 252 | 173 |
| 31 | 192 | 68 | 153 | 105 | 26 | 142 | 42 | 179 | 75 | 216 | 195 | 253 | 71 |
| 32 | 157 | 69 | 47 | 106 | 52 | 143 | 84 | 180 | 150 | 217 | 155 | 254 | 142 |
| 33 | 39 | 70 | 94 | 107 | 104 | 144 | 168 | 181 | 49 | 218 | 43 | * | 0 |
| 34 | 78 | 71 | 188 | 108 | 208 | 145 | 77 | 182 | 98 | 219 | 86 | | |
| 35 | 156 | 72 | 101 | 109 | 189 | 146 | 154 | 183 | 196 | 220 | 172 | | |
| 36 | 37 | 73 | 202 | 110 | 103 | 147 | 41 | 184 | 149 | 221 | 69 | | |

Logarithm table for GF(256) with primitive, irreducible polynomial 285 (0x11D)

by Cody Planteen; https://codyplanteen.com/notes/rs; June 24, 2019

$$F(x) = x^8 + x^4 + x^3 + x^2 + 1, \ \alpha = x + 0 = \text{2 = 0x02}$$

Example: $35 \cdot 36 = \alpha^{47} \alpha^{225} = \alpha^{272} = \alpha^{272 \mod 255} = \alpha^{17} = 152$

| | | | | | | | | | _ | | | | | |
|--------------|-----|--------------|-----|--------------|-----|--------------|-----|----------|----|-----|--------------|-------|--------------|-----|
| α^{j} | j | α^{j} | j | α^{j} | j | α^{j} | j | α | j | j | α^{j} | j | α^{j} | j |
| 0 | * | 37 | 36 | 74 | 37 | 111 | 61 | 14 | 18 | 38 | 18 | 60 | 222 | 62 |
| 1 | 0 | 38 | 15 | 75 | 179 | 112 | 202 | 14 | 19 | 184 | 186 | | 223 | 90 |
| 2 | 1 | 39 | 33 | 76 | 16 | 113 | 94 | 15 | 0 | 180 | 187 | | 224 | 203 |
| 3 | 25 | 40 | 53 | 77 | 145 | 114 | 155 | 15 | | 124 | 188 | | 225 | 89 |
| 4 | 2 | 41 | 147 | 78 | 34 | 115 | 159 | 15 | | 17 | 189 | | 226 | 95 |
| 5 | 50 | 42 | 142 | 79 | 136 | 116 | 10 | 15 | 53 | 68 | 190 | 65 | 227 | 176 |
| 6 | 26 | 43 | 218 | 80 | 54 | 117 | 21 | 15 | 54 | 146 | 193 | 162 | 228 | 156 |
| 7 | 198 | 44 | 240 | 81 | 208 | 118 | 121 | 15 | 55 | 217 | 192 | 2 31 | 229 | 169 |
| 8 | 3 | 45 | 18 | 82 | 148 | 119 | 43 | 15 | 66 | 35 | 193 | 3 45 | 230 | 160 |
| 9 | 223 | 46 | 130 | 83 | 206 | 120 | 78 | 15 | 57 | 32 | 19^{2} | 4 67 | 231 | 81 |
| 10 | 51 | 47 | 69 | 84 | 143 | 121 | 212 | 15 | 8 | 137 | 195 | 5 216 | 232 | 11 |
| 11 | 238 | 48 | 29 | 85 | 150 | 122 | 229 | 15 | 59 | 46 | 196 | 183 | 233 | 245 |
| 12 | 27 | 49 | 181 | 86 | 219 | 123 | 172 | 16 | 60 | 55 | 19' | 7 123 | 234 | 22 |
| 13 | 104 | 50 | 194 | 87 | 189 | 124 | 115 | 16 | 31 | 63 | 198 | 3 164 | 235 | 235 |
| 14 | 199 | 51 | 125 | 88 | 241 | 125 | 243 | 16 | 32 | 209 | 199 | 118 | 236 | 122 |
| 15 | 75 | 52 | 106 | 89 | 210 | 126 | 167 | 16 | 3 | 91 | 200 | 196 | 237 | 117 |
| 16 | 4 | 53 | 39 | 90 | 19 | 127 | 87 | 16 | 64 | 149 | 20 | 23 | 238 | 44 |
| 17 | 100 | 54 | 249 | 91 | 92 | 128 | 7 | 16 | 55 | 188 | 202 | 2 73 | 239 | 215 |
| 18 | 224 | 55 | 185 | 92 | 131 | 129 | 112 | 16 | 66 | 207 | 203 | 3 236 | 240 | 79 |
| 19 | 14 | 56 | 201 | 93 | 56 | 130 | 192 | 16 | 37 | 205 | 20^{2} | | 241 | 174 |
| 20 | 52 | 57 | 154 | 94 | 70 | 131 | 247 | 16 | 68 | 144 | 20 | 5 12 | 242 | 213 |
| 21 | 141 | 58 | 9 | 95 | 64 | 132 | 140 | 16 | 9 | 135 | 200 | 3 111 | 243 | 233 |
| 22 | 239 | 59 | 120 | 96 | 30 | 133 | 128 | 17 | 70 | 151 | 20' | 246 | 244 | 230 |
| 23 | 129 | 60 | 77 | 97 | 66 | 134 | 99 | 17 | 71 | 178 | 208 | 3 108 | 245 | 231 |
| 24 | 28 | 61 | 228 | 98 | 182 | 135 | 13 | 17 | 72 | 220 | 209 | 161 | 246 | 173 |
| 25 | 193 | 62 | 114 | 99 | 163 | 136 | 103 | 17 | 73 | 252 | 210 | 59 | 247 | 232 |
| 26 | 105 | 63 | 166 | 100 | 195 | 137 | 74 | 17 | 74 | 190 | 21 | 82 | 248 | 116 |
| 27 | 248 | 64 | 6 | 101 | 72 | 138 | 222 | 17 | 75 | 97 | 212 | 2 41 | 249 | 214 |
| 28 | 200 | 65 | 191 | 102 | 126 | 139 | 237 | 17 | 76 | 242 | 213 | 157 | 250 | 244 |
| 29 | 8 | 66 | 139 | 103 | 110 | 140 | 49 | 17 | 77 | 86 | 21 | 1 85 | 251 | 234 |
| 30 | 76 | 67 | 98 | 104 | 107 | 141 | 197 | 17 | 78 | 211 | 218 | 5 170 | 252 | 168 |
| 31 | 113 | 68 | 102 | 105 | 58 | 142 | 254 | 17 | 79 | 171 | 216 | 5 251 | 253 | 80 |
| 32 | 5 | 69 | 221 | 106 | 40 | 143 | 24 | 18 | 30 | 20 | 21' | 96 | 254 | 88 |
| 33 | 138 | 70 | 48 | 107 | 84 | 144 | 227 | 18 | 31 | 42 | 218 | 3 134 | 255 | 175 |
| 34 | 101 | 71 | 253 | 108 | 250 | 145 | 165 | 18 | 32 | 93 | 219 | 177 | | |
| 35 | 47 | 72 | 226 | 109 | 133 | 146 | 153 | 18 | 33 | 158 | 220 | 187 | | |
| 36 | 225 | 73 | 152 | 110 | 186 | 147 | 119 | 18 | 34 | 132 | 22 | 204 | | |

Anti-logarithm table for $\mathrm{GF}(256)$ with primitive, irreducible polynomial 299 $(0\mathrm{x}12\mathrm{B})$

by Cody Planteen; https://codyplanteen.com/notes/rs; June 24, 2019

 $F(x) = x^8 + x^5 + x^3 + x + 1, \, \alpha = x + 0 = \text{ 2 = 0x02}$

| \overline{j} | α^{j} | j | α^{j} | j | α^{j} | j | α^{j} | j | α^{j} | j | α^{j} | j | α^{j} |
|----------------|--------------|----|--------------|-----|--------------|-----|--------------|---------|--------------|-----|--------------|-----|--------------|
| 0 | 1 | 37 | 210 | 74 | 44 | 111 | 220 | 148 | 252 | 185 | 127 | 222 | 120 |
| 1 | 2 | 38 | 143 | 75 | 88 | 112 | 147 | 149 | 211 | 186 | | 223 | 240 |
| 2 | 4 | 39 | 53 | 76 | 176 | 113 | 13 | 150 | 141 | 187 | | 224 | 203 |
| 3 | 8 | 40 | 106 | 77 | 75 | 114 | 26 | 151 | 49 | 188 | | 225 | 189 |
| 4 | 16 | 41 | 212 | 78 | 150 | 115 | 52 | 152 | 98 | 189 | 33 | 226 | 81 |
| 5 | 32 | 42 | 131 | 79 | 7 | 116 | 104 | 153 | 196 | 190 | 66 | 227 | 162 |
| 6 | 64 | 43 | 45 | 80 | 14 | 117 | 208 | 154 | 163 | 191 | 132 | 228 | 111 |
| 7 | 128 | 44 | 90 | 81 | 28 | 118 | 139 | 155 | 109 | 192 | 35 | 229 | 222 |
| 8 | 43 | 45 | 180 | 82 | 56 | 119 | 61 | 156 | 218 | 193 | 70 | 230 | 151 |
| 9 | 86 | 46 | 67 | 83 | 112 | 120 | 122 | 157 | 159 | 194 | 140 | 231 | 5 |
| 10 | 172 | 47 | 134 | 84 | 224 | 121 | 244 | 158 | 21 | 195 | 51 | 232 | 10 |
| 11 | 115 | 48 | 39 | 85 | 235 | 122 | 195 | 159 | 42 | 196 | 102 | 233 | 20 |
| 12 | 230 | 49 | 78 | 86 | 253 | 123 | 173 | 160 | 84 | 197 | 204 | 234 | 40 |
| 13 | 231 | 50 | 156 | 87 | 209 | 124 | 113 | 161 | 168 | 198 | 179 | 235 | 80 |
| 14 | 229 | 51 | 19 | 88 | 137 | 125 | 226 | 162 | 123 | 199 | 77 | 236 | 160 |
| 15 | 225 | 52 | 38 | 89 | 57 | 126 | 239 | 163 | 246 | 200 | 154 | 237 | 107 |
| 16 | 233 | 53 | 76 | 90 | 114 | 127 | 245 | 164 | 199 | 201 | 31 | 238 | 214 |
| 17 | 249 | 54 | 152 | 91 | 228 | 128 | 193 | 165 | 165 | 202 | | 239 | 135 |
| 18 | 217 | 55 | 27 | 92 | 227 | 129 | 169 | 166 | 97 | 203 | 124 | 240 | 37 |
| 19 | 153 | 56 | 54 | 93 | 237 | 130 | 121 | 167 | 194 | 204 | | 241 | 74 |
| 20 | 25 | 57 | 108 | 94 | 241 | 131 | 242 | 168 | 175 | 205 | | 242 | 148 |
| 21 | 50 | 58 | 216 | 95 | 201 | 132 | 207 | 169 | 117 | 206 | | 243 | 3 |
| 22 | 100 | 59 | 155 | 96 | 185 | 133 | 181 | 170 | 234 | 207 | | 244 | 6 |
| 23 | 200 | 60 | 29 | 97 | 89 | 134 | 65 | 171 | 255 | 208 | | 245 | 12 |
| 24 | 187 | 61 | 58 | 98 | 178 | 135 | 130 | 172 | 213 | 209 | | 246 | 24 |
| 25 | 93 | 62 | 116 | 99 | 79 | 136 | 47 | 173 | 129 | 210 | | 247 | 48 |
| 26 | 186 | 63 | 232 | 100 | 158 | 137 | 94 | 174 | 41 | 211 | | 248 | 96 |
| 27 | 95 | 64 | 251 | 101 | 23 | 138 | 188 | 175 | 82 | 212 | | 249 | 192 |
| 28 | 190 | 65 | 221 | 102 | 46 | 139 | 83 | 176 | 164 | 213 | | 250 | 171 |
| 29 | 87 | 66 | 145 | 103 | 92 | 140 | 166 | 177 | 99 | 214 | | 251 | 125 |
| 30 | 174 | 67 | 9 | 104 | 184 | 141 | 103 | 178 | 198 | 215 | | 252 | 250 |
| 31 | 119 | 68 | 18 | 105 | 91 | 142 | 206 | 179 | 167 | 216 | | 253 | 223 |
| 32 | 238 | 69 | 36 | 106 | 182 | 143 | 183 | 180 | 101 | 217 | | 254 | 149 |
| 33 | 247 | 70 | 72 | 107 | 71 | 144 | 69 | 181 | 202 | 218 | | * | 0 |
| 34 | 197 | 71 | 144 | 108 | 142 | 145 | 138 | 182 | 191 | 219 | | | |
| 35 | 161 | 72 | 11 | 109 | 55 | 146 | 63 | 183 | 85 | 220 | | | |
| 36 | 105 | 73 | 22 | 110 | 110 | 147 | 126 | 184 | 170 | 221 | 60 | | |

Logarithm table for GF(256) with primitive, irreducible polynomial 299 (0x12B)

by Cody Planteen; https://codyplanteen.com/notes/rs; June 24, 2019

$$F(x) = x^8 + x^5 + x^3 + x + 1, \, \alpha = x + 0 = \text{ 2 = 0x02}$$

Example: $35 \cdot 36 = \alpha^{192} \alpha^{69} = \alpha^{261} = \alpha^{261 \mod 255} = \alpha^6 = 64$

| α^{j} | j | α^{j} | j | α^{j} | j | α^{j} | j | α^j | j | α^j | j | α^j | j |
|--------------|-----|--------------|-----|--------------|-----|--------------|-----|------------|-----|------------|-----|------------|-----|
| 0 | * | 37 | 240 | 74 | 241 | 111 | 228 | 148 | 242 | 185 | 96 | 222 | 229 |
| 1 | 0 | 38 | 52 | 75 | 77 | 112 | 83 | 149 | 254 | 186 | 26 | 223 | 253 |
| 2 | 1 | 39 | 48 | 76 | 53 | 113 | 124 | 150 | 78 | 187 | 24 | 224 | 84 |
| 3 | 243 | 40 | 234 | 77 | 199 | 114 | 90 | 151 | 230 | 188 | 138 | 225 | 15 |
| 4 | 2 | 41 | 174 | 78 | 49 | 115 | 11 | 152 | 54 | 189 | 225 | 226 | 125 |
| 5 | 231 | 42 | 159 | 79 | 99 | 116 | 62 | 153 | 19 | 190 | 28 | 227 | 92 |
| 6 | 244 | 43 | 8 | 80 | 235 | 117 | 169 | 154 | 200 | 191 | 182 | 228 | 91 |
| 7 | 79 | 44 | 74 | 81 | 226 | 118 | 212 | 155 | 59 | 192 | 249 | 229 | 14 |
| 8 | 3 | 45 | 43 | 82 | 175 | 119 | 31 | 156 | 50 | 193 | 128 | 230 | 12 |
| 9 | 67 | 46 | 102 | 83 | 139 | 120 | 222 | 157 | 206 | 194 | 167 | 231 | 13 |
| 10 | 232 | 47 | 136 | 84 | 160 | 121 | 130 | 158 | 100 | 195 | 122 | 232 | 63 |
| 11 | 72 | 48 | 247 | 85 | 183 | 122 | 120 | 159 | 157 | 196 | 153 | 233 | 16 |
| 12 | 245 | 49 | 151 | 86 | 9 | 123 | 162 | 160 | 236 | 197 | 34 | 234 | 170 |
| 13 | 113 | 50 | 21 | 87 | 29 | 124 | 203 | 161 | 35 | 198 | 178 | 235 | 85 |
| 14 | 80 | 51 | 195 | 88 | 75 | 125 | 251 | 162 | 227 | 199 | 164 | 236 | 213 |
| 15 | 219 | 52 | 115 | 89 | 97 | 126 | 147 | 163 | 154 | 200 | 23 | 237 | 93 |
| 16 | 4 | 53 | 39 | 90 | 44 | 127 | 185 | 164 | 176 | 201 | 95 | 238 | 32 |
| 17 | 207 | 54 | 56 | 91 | 105 | 128 | 7 | 165 | 165 | 202 | 181 | 239 | 126 |
| 18 | 68 | 55 | 109 | 92 | 103 | 129 | 173 | 166 | 140 | 203 | 224 | 240 | 223 |
| 19 | 51 | 56 | 82 | 93 | 25 | 130 | 135 | 167 | 179 | 204 | 197 | 241 | 94 |
| 20 | 233 | 57 | 89 | 94 | 137 | 131 | 42 | 168 | 161 | 205 | 215 | 242 | 131 |
| 21 | 158 | 58 | 61 | 95 | 27 | 132 | 191 | 169 | 129 | 206 | 142 | 243 | 214 |
| 22 | 73 | 59 | 211 | 96 | 248 | 133 | 188 | 170 | 184 | 207 | 132 | 244 | 121 |
| 23 | 101 | 60 | 221 | 97 | 166 | 134 | 47 | 171 | 250 | 208 | 117 | 245 | 127 |
| 24 | 246 | 61 | 119 | 98 | 152 | 135 | 239 | 172 | 10 | 209 | 87 | 246 | 163 |
| 25 | 20 | 62 | 202 | 99 | 177 | 136 | 210 | 173 | 123 | 210 | 37 | 247 | 33 |
| 26 | 114 | 63 | 146 | 100 | 22 | 137 | 88 | 174 | 30 | 211 | 149 | 248 | 204 |
| 27 | 55 | 64 | 6 | 101 | 180 | 138 | 145 | 175 | 168 | 212 | 41 | 249 | 17 |
| 28 | 81 | 65 | 134 | 102 | 196 | 139 | 118 | 176 | 76 | 213 | 172 | 250 | 252 |
| 29 | 60 | 66 | 190 | 103 | 141 | 140 | 194 | 177 | 216 | 214 | 238 | 251 | 64 |
| 30 | 220 | 67 | 46 | 104 | 116 | 141 | 150 | 178 | 98 | 215 | 187 | 252 | 148 |
| 31 | 201 | 68 | 209 | 105 | 36 | 142 | 108 | 179 | 198 | 216 | 58 | 253 | 86 |
| 32 | 5 | 69 | 144 | 106 | 40 | 143 | 38 | 180 | 45 | 217 | 18 | 254 | 186 |
| 33 | 189 | 70 | 193 | 107 | 237 | 144 | 71 | 181 | 133 | 218 | 156 | 255 | 171 |
| 34 | 208 | 71 | 107 | 108 | 57 | 145 | 66 | 182 | 106 | 219 | 205 | | |
| 35 | 192 | 72 | 70 | 109 | 155 | 146 | 218 | 183 | 143 | 220 | 111 | | |
| 36 | 69 | 73 | 217 | 110 | 110 | 147 | 112 | 184 | 104 | 221 | 65 | | |

Anti-logarithm table for $\mathrm{GF}(256)$ with primitive, irreducible polynomial $301~(0\mathrm{x}12\mathrm{D})$

by Cody Planteen; https://codyplanteen.com/notes/rs; June 24, 2019

 $F(x) = x^8 + x^5 + x^3 + x^2 + 1, \, \alpha = x + 0 = \text{ 2 = 0x02}$

| \overline{j} | α^j | j | α^j | j | α^j | j | α^{j} | j | α^j | j | α^j | j | α^{j} |
|----------------|------------|----|------------|-----|------------|-----|--------------|--------------|------------|-----|------------|-----|--------------|
| 0 | 1 | 37 | 146 | 74 | 91 | 111 | 250 | 14 | 8 226 | 185 | 142 | 222 | 37 |
| 1 | 2 | 38 | 9 | 75 | 182 | 112 | 217 | 14 | 9 233 | 186 | 49 | 223 | 74 |
| 2 | 4 | 39 | 18 | 76 | 65 | 113 | 159 | 15 | 255 | 187 | 98 | 224 | 148 |
| 3 | 8 | 40 | 36 | 77 | 130 | 114 | 19 | 15 | 1 211 | 188 | 196 | 225 | 5 |
| 4 | 16 | 41 | 72 | 78 | 41 | 115 | 38 | 15 | 2 - 139 | 189 | 165 | 226 | 10 |
| 5 | 32 | 42 | 144 | 79 | 82 | 116 | 76 | 15 | 3 59 | 190 | 103 | 227 | 20 |
| 6 | 64 | 43 | 13 | 80 | 164 | 117 | 152 | 15 | 118 | 191 | 206 | 228 | 40 |
| 7 | 128 | 44 | 26 | 81 | 101 | 118 | 29 | 15 | 5 236 | 192 | 177 | 229 | 80 |
| 8 | 45 | 45 | 52 | 82 | 202 | 119 | 58 | 15 | 3 245 | 193 | 79 | 230 | 160 |
| 9 | 90 | 46 | 104 | 83 | 185 | 120 | 116 | 15° | 7 199 | 194 | 158 | 231 | 109 |
| 10 | 180 | 47 | 208 | 84 | 95 | 121 | 232 | 15 | 8 163 | 195 | 17 | 232 | 218 |
| 11 | 69 | 48 | 141 | 85 | 190 | 122 | 253 | 159 | 9 107 | 196 | 34 | 233 | 153 |
| 12 | 138 | 49 | 55 | 86 | 81 | 123 | 215 | 16 | 214 | 197 | 68 | 234 | 31 |
| 13 | 57 | 50 | 110 | 87 | 162 | 124 | 131 | 16 | 1 129 | 198 | 136 | 235 | 62 |
| 14 | 114 | 51 | 220 | 88 | 105 | 125 | 43 | 16 | 2 	 47 | 199 | 61 | 236 | 124 |
| 15 | 228 | 52 | 149 | 89 | 210 | 126 | 86 | 16 | 3 94 | 200 | 122 | 237 | 248 |
| 16 | 229 | 53 | 7 | 90 | 137 | 127 | 172 | 16 | 188 | 201 | 244 | 238 | 221 |
| 17 | 231 | 54 | 14 | 91 | 63 | 128 | 117 | 16 | 5 85 | 202 | 197 | 239 | 151 |
| 18 | 227 | 55 | 28 | 92 | 126 | 129 | 234 | 16 | 3 170 | 203 | 167 | 240 | 3 |
| 19 | 235 | 56 | 56 | 93 | 252 | 130 | 249 | 16 | 7 121 | 204 | 99 | 241 | 6 |
| 20 | 251 | 57 | 112 | 94 | 213 | 131 | 223 | 16 | 3 242 | 205 | 198 | 242 | 12 |
| 21 | 219 | 58 | 224 | 95 | 135 | 132 | 147 | 169 | 9 201 | 206 | 161 | 243 | 24 |
| 22 | 155 | 59 | 237 | 96 | 35 | 133 | 11 | 17 | 191 | 207 | 111 | 244 | 48 |
| 23 | 27 | 60 | 247 | 97 | 70 | 134 | 22 | 17 | 1 83 | 208 | 222 | 245 | 96 |
| 24 | 54 | 61 | 195 | 98 | 140 | 135 | 44 | 173 | 2 166 | 209 | 145 | 246 | 192 |
| 25 | 108 | 62 | 171 | 99 | 53 | 136 | 88 | 173 | 3 97 | 210 | 15 | 247 | 173 |
| 26 | 216 | 63 | 123 | 100 | 106 | 137 | 176 | 17 | 194 | 211 | 30 | 248 | 119 |
| 27 | 157 | 64 | 246 | 101 | 212 | 138 | 77 | 17 | 5 169 | 212 | 60 | 249 | 238 |
| 28 | 23 | 65 | 193 | 102 | 133 | 139 | 154 | 17 | 3 127 | 213 | 120 | 250 | 241 |
| 29 | 46 | 66 | 175 | 103 | 39 | 140 | 25 | 17 | 7 254 | 214 | 240 | 251 | 207 |
| 30 | 92 | 67 | 115 | 104 | 78 | 141 | 50 | 17 | 8 209 | 215 | 205 | 252 | 179 |
| 31 | 184 | 68 | 230 | 105 | 156 | 142 | 100 | 17 | 9 143 | 216 | 183 | 253 | 75 |
| 32 | 93 | 69 | 225 | 106 | 21 | 143 | 200 | 180 | 51 | 217 | 67 | 254 | 150 |
| 33 | 186 | 70 | 239 | 107 | 42 | 144 | 189 | 18 | 1 102 | 218 | 134 | * | 0 |
| 34 | 89 | 71 | 243 | 108 | 84 | 145 | 87 | 18 | 2 204 | 219 | 33 | | |
| 35 | 178 | 72 | 203 | 109 | 168 | 146 | 174 | 18 | 3 181 | 220 | 66 | | |
| 36 | 73 | 73 | 187 | 110 | 125 | 147 | 113 | 18 | 4 71 | 221 | 132 | | |

Logarithm table for GF(256) with primitive, irreducible polynomial 301 (0x12D)

by Cody Planteen; https://codyplanteen.com/notes/rs; June 24, 2019

$$F(x) = x^8 + x^5 + x^3 + x^2 + 1, \ \alpha = x + 0 = {\rm 2 = 0x02}$$

Example: $35 \cdot 36 = \alpha^{96} \alpha^{40} = \alpha^{136} = 88$

| α^{j} | j | α^{j} | j | α^{j} | j | α^{j} | j | C | χ^j | j | α^j | j | α^j | j |
|--------------|-----|--------------|-----|--------------|-----|--------------|-----|---|----------|-----|------------|-----|------------|-----|
| 0 | * | 37 | 222 | 74 | 223 | 111 | 207 | 1 | 48 | 224 | 185 | 83 | 222 | 208 |
| 1 | 0 | 38 | 115 | 75 | 253 | 112 | 57 | 1 | 49 | 52 | 186 | 33 | 223 | 131 |
| 2 | 1 | 39 | 103 | 76 | 116 | 113 | 147 | 1 | 50 | 254 | 187 | 73 | 224 | 58 |
| 3 | 240 | 40 | 228 | 77 | 138 | 114 | 14 | 1 | 51 | 239 | 188 | 164 | 225 | 69 |
| 4 | 2 | 41 | 78 | 78 | 104 | 115 | 67 | | 52 | 117 | 189 | 144 | 226 | 148 |
| 5 | 225 | 42 | 107 | 79 | 193 | 116 | 120 | 1 | 53 | 233 | 190 | 85 | 227 | 18 |
| 6 | 241 | 43 | 125 | 80 | 229 | 117 | 128 | 1 | 54 | 139 | 191 | 170 | 228 | 15 |
| 7 | 53 | 44 | 135 | 81 | 86 | 118 | 154 | 1 | 55 | 22 | 192 | 246 | 229 | 16 |
| 8 | 3 | 45 | 8 | 82 | 79 | 119 | 248 | 1 | 56 | 105 | 193 | 65 | 230 | 68 |
| 9 | 38 | 46 | 29 | 83 | 171 | 120 | 213 | 1 | 57 | 27 | 194 | 174 | 231 | 17 |
| 10 | 226 | 47 | 162 | 84 | 108 | 121 | 167 | 1 | 58 | 194 | 195 | 61 | 232 | 121 |
| 11 | 133 | 48 | 244 | 85 | 165 | 122 | 200 | 1 | 59 | 113 | 196 | 188 | 233 | 149 |
| 12 | 242 | 49 | 186 | 86 | 126 | 123 | 63 | 1 | 60 | 230 | 197 | 202 | 234 | 129 |
| 13 | 43 | 50 | 141 | 87 | 145 | 124 | 236 | 1 | 61 | 206 | 198 | 205 | 235 | 19 |
| 14 | 54 | 51 | 180 | 88 | 136 | 125 | 110 | 1 | 62 | 87 | 199 | 157 | 236 | 155 |
| 15 | 210 | 52 | 45 | 89 | 34 | 126 | 92 | 1 | 63 | 158 | 200 | 143 | 237 | 59 |
| 16 | 4 | 53 | 99 | 90 | 9 | 127 | 176 | 1 | 64 | 80 | 201 | 169 | 238 | 249 |
| 17 | 195 | 54 | 24 | 91 | 74 | 128 | 7 | 1 | 65 | 189 | 202 | 82 | 239 | 70 |
| 18 | 39 | 55 | 49 | 92 | 30 | 129 | 161 | 1 | 66 | 172 | 203 | 72 | 240 | 214 |
| 19 | 114 | 56 | 56 | 93 | 32 | 130 | 77 | 1 | 67 | 203 | 204 | 182 | 241 | 250 |
| 20 | 227 | 57 | 13 | 94 | 163 | 131 | 124 | 1 | 68 | 109 | 205 | 215 | 242 | 168 |
| 21 | 106 | 58 | 119 | 95 | 84 | 132 | 221 | 1 | 69 | 175 | 206 | 191 | 243 | 71 |
| 22 | 134 | 59 | 153 | 96 | 245 | 133 | 102 | 1 | 70 | 166 | 207 | 251 | 244 | 201 |
| 23 | 28 | 60 | 212 | 97 | 173 | 134 | 218 | 1 | 71 | 62 | 208 | 47 | 245 | 156 |
| 24 | 243 | 61 | 199 | 98 | 187 | 135 | 95 | 1 | 72 | 127 | 209 | 178 | 246 | 64 |
| 25 | 140 | 62 | 235 | 99 | 204 | 136 | 198 | 1 | 73 | 247 | 210 | 89 | 247 | 60 |
| 26 | 44 | 63 | 91 | 100 | 142 | 137 | 90 | 1 | 74 | 146 | 211 | 151 | 248 | 237 |
| 27 | 23 | 64 | 6 | 101 | 81 | 138 | 12 | 1 | 75 | 66 | 212 | 101 | 249 | 130 |
| 28 | 55 | 65 | 76 | 102 | 181 | 139 | 152 | 1 | 76 | 137 | 213 | 94 | 250 | 111 |
| 29 | 118 | 66 | 220 | 103 | 190 | 140 | 98 | 1 | 77 | 192 | 214 | 160 | 251 | 20 |
| 30 | 211 | 67 | 217 | 104 | 46 | 141 | 48 | 1 | 78 | 35 | 215 | 123 | 252 | 93 |
| 31 | 234 | 68 | 197 | 105 | 88 | 142 | 185 | 1 | 79 | 252 | 216 | 26 | 253 | 122 |
| 32 | 5 | 69 | 11 | 106 | 100 | 143 | 179 | 1 | 80 | 10 | 217 | 112 | 254 | 177 |
| 33 | 219 | 70 | 97 | 107 | 159 | 144 | 42 | 1 | 81 | 183 | 218 | 232 | 255 | 150 |
| 34 | 196 | 71 | 184 | 108 | 25 | 145 | 209 | 1 | 82 | 75 | 219 | 21 | | |
| 35 | 96 | 72 | 41 | 109 | 231 | 146 | 37 | 1 | 83 | 216 | 220 | 51 | | |
| 36 | 40 | 73 | 36 | 110 | 50 | 147 | 132 | 1 | 84 | 31 | 221 | 238 | | |

Anti-logarithm table for $\mathrm{GF}(256)$ with irreducible polynomial 313 $(0\mathrm{x}139)$

by Cody Planteen; https://codyplanteen.com/notes/rs; June 24, 2019

 $F(x) = x^8 + x^5 + x^4 + x^3 + 1, \, \alpha = x + 1 = \text{ 3 = 0x03}$

| | $lpha^j$ | j | $lpha^j$ | j | $lpha^j$ | j | $lpha^j$ | j | $lpha^j$ | j | $lpha^j$ | j | α^{j} |
|---------------|----------|----|--------------------|----------------------|----------|--------------|------------------|-----------------|----------|--------------|----------|-------------------|-------------------|
| $\frac{j}{0}$ | 1 | 37 | 237 | $\frac{J}{74}$ | 73 | 111 | 132 | $\frac{J}{148}$ | 154 | 185 | 246 | $\frac{J}{222}$ | 55 |
| 1 | 3 | 38 | 14 | 7 4 75 | 219 | 111 | 181 | 149 | 154 | 186 | 35 | $\frac{222}{223}$ | 89 |
| 2 | 5 | 39 | 18 | 76 | 84 | 113 | 230 | 150 | 128 | 187 | 101 | $\frac{223}{224}$ | 235 |
| 3 | 15 | 40 | 54 | 77 | 252 | $113 \\ 114$ | 250 19 | 150 151 | 185 | 188 | 175 | $\frac{224}{225}$ | $\frac{235}{4}$ |
| 4 | 17 | 41 | 90 | 78 | 61 | 115 | 53 | $151 \\ 152$ | 242 | 189 | 200 | $\frac{225}{226}$ | 12 |
| 5 | 51 | 42 | 238 | 79 | 71 | 116 | 95 | 152 153 | 47 | 190 | 97 | $\frac{220}{227}$ | 20 |
| 6 | 85 | 43 | 2 3 6 11 | 80 | 201 | 117 | $\frac{33}{225}$ | 153 | 113 | 191 | 163 | 228 | 60 |
| 7 | 255 | 44 | 29 | 81 | 98 | 118 | 26 | 154 155 | 147 | $191 \\ 192$ | 220 | $\frac{228}{229}$ | 68 |
| 8 | 56 | 45 | 39 | 82 | 166 | 119 | 46 | 156 | 140 | $192 \\ 193$ | 93 | $\frac{229}{230}$ | $\frac{00}{204}$ |
| 9 | 72 | 46 | 105 | 83 | 211 | 120 | 114 | 150 | 173 | 194 | 231 | $\frac{230}{231}$ | 109 |
| 10 | 216 | 47 | 187 | 84 | 76 | 120 121 | 150 | 158 | 206 | 195 | 16 | $231 \\ 232$ | 183 |
| 11 | 81 | 48 | 244 | 85 | 212 | $121 \\ 122$ | 131 | 150 | 107 | 196 | 48 | $\frac{232}{233}$ | $\frac{103}{224}$ |
| 12 | 243 | 49 | 37 | 86 | 69 | 123 | 188 | 160 | 189 | 197 | 80 | 234 | 25 |
| 13 | 44 | 50 | 111 | 87 | 207 | 124 | 253 | 161 | 254 | 198 | 240 | 235 | 43 |
| 14 | 116 | 51 | 177 | 88 | 104 | 125 | 62 | 162 | 59 | 199 | 41 | 236 | 125 |
| 15 | 156 | 52 | 234 | 89 | 184 | 126 | 66 | 163 | 77 | 200 | 123 | 237 | 135 |
| 16 | 157 | 53 | 7 | 90 | 241 | 127 | 198 | 164 | 215 | 201 | 141 | 238 | 176 |
| 17 | 158 | 54 | 9 | 91 | 42 | 128 | 115 | 165 | 64 | 202 | 174 | $\frac{230}{239}$ | 233 |
| 18 | 155 | 55 | 27 | 92 | 126 | 129 | 149 | 166 | 192 | 203 | 203 | 240 | 2 |
| 19 | 148 | 56 | 45 | 93 | 130 | 130 | 134 | 167 | 121 | 204 | 100 | 241 | 6 |
| 20 | 133 | 57 | 119 | 94 | 191 | 131 | 179 | 168 | 139 | 205 | 172 | 242 | 10 |
| 21 | 182 | 58 | 153 | 95 | 248 | 132 | 236 | 169 | 164 | 206 | 205 | 243 | 30 |
| 22 | 227 | 59 | 146 | 96 | 49 | 133 | 13 | 170 | 213 | 207 | 110 | 244 | 34 |
| 23 | 28 | 60 | 143 | 97 | 83 | 134 | 23 | 171 | 70 | 208 | 178 | 245 | 102 |
| 24 | 36 | 61 | 168 | 98 | 245 | 135 | 57 | 172 | 202 | 209 | 239 | 246 | 170 |
| 25 | 108 | 62 | 193 | 99 | 38 | 136 | 75 | 173 | 103 | 210 | 8 | 247 | 199 |
| 26 | 180 | 63 | 122 | 100 | 106 | 137 | 221 | 174 | 169 | 211 | 24 | 248 | 112 |
| 27 | 229 | 64 | 142 | 101 | 190 | 138 | 94 | 175 | 194 | 212 | 40 | 249 | 144 |
| 28 | 22 | 65 | 171 | 102 | 251 | 139 | 226 | 176 | 127 | 213 | 120 | 250 | 137 |
| 29 | 58 | 66 | 196 | 103 | 52 | 140 | 31 | 177 | 129 | 214 | 136 | 251 | 162 |
| 30 | 78 | 67 | 117 | 104 | 92 | 141 | 33 | 178 | 186 | 215 | 161 | 252 | 223 |
| 31 | 210 | 68 | 159 | 105 | 228 | 142 | 99 | 179 | 247 | 216 | 218 | 253 | 88 |
| 32 | 79 | 69 | 152 | 106 | 21 | 143 | 165 | 180 | 32 | 217 | 87 | 254 | 232 |
| 33 | 209 | 70 | 145 | 107 | 63 | 144 | 214 | 181 | 96 | 218 | 249 | * | 0 |
| 34 | 74 | 71 | 138 | 108 | 65 | 145 | 67 | 182 | 160 | 219 | 50 | | |
| 35 | 222 | 72 | 167 | 109 | 195 | 146 | 197 | 183 | 217 | 220 | 86 | | |
| 36 | 91 | 73 | 208 | 110 | 124 | 147 | 118 | 184 | 82 | 221 | 250 | | |

Logarithm table for GF(256) with irreducible polynomial 313 (0x139)

by Cody Planteen; https://codyplanteen.com/notes/rs; June 24, 2019

$$F(x) = x^8 + x^5 + x^4 + x^3 + 1, \, \alpha = x + 1 = \text{3 = 0x03}$$

Example: $35 \cdot 36 = \alpha^{186} \alpha^{24} = \alpha^{210} = 8$

| $\overline{\alpha^j}$ | j | α^{j} | j |
|-----------------------|-----|--------------|-----|--------------|-----|--------------|-----|--------------|-----|--------------|-----|--------------|-----|
| 0 | * | 37 | 49 | 74 | 34 | 111 | 50 | 148 | 19 | 185 | 151 | 222 | 35 |
| 1 | 0 | 38 | 99 | 75 | 136 | 112 | 248 | 149 | 129 | 186 | 178 | 223 | 252 |
| 2 | 240 | 39 | 45 | 76 | 84 | 113 | 154 | 150 | 121 | 187 | 47 | 224 | 233 |
| 3 | 1 | 40 | 212 | 77 | 163 | 114 | 120 | 151 | 149 | 188 | 123 | 225 | 117 |
| 4 | 225 | 41 | 199 | 78 | 30 | 115 | 128 | 152 | 69 | 189 | 160 | 226 | 139 |
| 5 | 2 | 42 | 91 | 79 | 32 | 116 | 14 | 153 | 58 | 190 | 101 | 227 | 22 |
| 6 | 241 | 43 | 235 | 80 | 197 | 117 | 67 | 154 | 148 | 191 | 94 | 228 | 105 |
| 7 | 53 | 44 | 13 | 81 | 11 | 118 | 147 | 155 | 18 | 192 | 166 | 229 | 27 |
| 8 | 210 | 45 | 56 | 82 | 184 | 119 | 57 | 156 | 15 | 193 | 62 | 230 | 113 |
| 9 | 54 | 46 | 119 | 83 | 97 | 120 | 213 | 157 | | 194 | 175 | 231 | 194 |
| 10 | 242 | 47 | 153 | 84 | 76 | 121 | 167 | 158 | | 195 | 109 | 232 | 254 |
| 11 | 43 | 48 | 196 | 85 | 6 | 122 | 63 | 159 | | 196 | 66 | 233 | 239 |
| 12 | 226 | 49 | 96 | 86 | 220 | 123 | 200 | 160 | | 197 | 146 | 234 | 52 |
| 13 | 133 | 50 | 219 | 87 | 217 | 124 | 110 | 161 | | 198 | 127 | 235 | 224 |
| 14 | 38 | 51 | 5 | 88 | 253 | 125 | 236 | 162 | | 199 | 247 | 236 | 132 |
| 15 | 3 | 52 | 103 | 89 | 223 | 126 | 92 | 163 | | 200 | 189 | 237 | 37 |
| 16 | 195 | 53 | 115 | 90 | 41 | 127 | 176 | 164 | | 201 | 80 | 238 | 42 |
| 17 | 4 | 54 | 40 | 91 | 36 | 128 | 150 | 165 | | 202 | 172 | 239 | 209 |
| 18 | 39 | 55 | 222 | 92 | 104 | 129 | 177 | 166 | | 203 | 203 | 240 | 198 |
| 19 | 114 | 56 | 8 | 93 | 193 | 130 | 93 | 167 | | 204 | 230 | 241 | 90 |
| 20 | 227 | 57 | 135 | 94 | 138 | 131 | 122 | 168 | | 205 | 206 | 242 | 152 |
| 21 | 106 | 58 | 29 | 95 | 116 | 132 | 111 | 169 | | 206 | 158 | 243 | 12 |
| 22 | 28 | 59 | 162 | 96 | 181 | 133 | 20 | 170 | 246 | 207 | 87 | 244 | 48 |
| 23 | 134 | 60 | 228 | 97 | 190 | 134 | 130 | 171 | | 208 | 73 | 245 | 98 |
| 24 | 211 | 61 | 78 | 98 | 81 | 135 | 237 | 172 | | 209 | 33 | 246 | 185 |
| 25 | 234 | 62 | 125 | 99 | 142 | 136 | 214 | 173 | | 210 | 31 | 247 | 179 |
| 26 | 118 | 63 | 107 | 100 | 204 | 137 | 250 | 174 | 202 | 211 | 83 | 248 | 95 |
| 27 | 55 | 64 | 165 | 101 | 187 | 138 | 71 | 175 | | 212 | 85 | 249 | 218 |
| 28 | 23 | 65 | 108 | 102 | 245 | 139 | 168 | 176 | | 213 | 170 | 250 | 221 |
| 29 | 44 | 66 | 126 | 103 | 173 | 140 | 156 | 177 | | 214 | 144 | 251 | 102 |
| 30 | 243 | 67 | 145 | 104 | 88 | 141 | 201 | 178 | | 215 | 164 | 252 | 77 |
| 31 | 140 | 68 | 229 | 105 | 46 | 142 | 64 | 179 | 131 | 216 | 10 | 253 | 124 |
| 32 | 180 | 69 | 86 | 106 | 100 | 143 | 60 | 180 | | 217 | 183 | 254 | 161 |
| 33 | 141 | 70 | 171 | 107 | 159 | 144 | 249 | 181 | | 218 | 216 | 255 | 7 |
| 34 | 244 | 71 | 79 | 108 | 25 | 145 | 70 | 182 | | 219 | 75 | | |
| 35 | 186 | 72 | 9 | 109 | 231 | 146 | 59 | 183 | | 220 | 192 | | |
| 36 | 24 | 73 | 74 | 110 | 207 | 147 | 155 | 184 | 89 | 221 | 137 | | |

Anti-logarithm table for $\mathrm{GF}(256)$ with irreducible polynomial 319 $(0\mathrm{x}13\mathrm{F})$

by Cody Planteen; https://codyplanteen.com/notes/rs; June 24, 2019

$$F(x) = x^8 + x^5 + x^4 + x^3 + x^2 + x + 1, \ \alpha = x + 1 = \text{3 = 0x03}$$

| \overline{j} | α^j | j | α^{j} | j | α^{j} | j | α^{j} | j | α^{j} | j | α^j | j | α^j |
|----------------|------------|----|--------------|-----|--------------|-----|--------------|-----|--------------|-----|------------|-----|------------|
| 0 | 1 | 37 | 184 | 74 | 57 | 111 | 177 | 148 | 130 | 185 | 127 | 222 | 120 |
| 1 | 3 | 38 | 247 | 75 | 75 | 112 | 236 | 149 | 185 | 186 | 129 | 223 | 136 |
| 2 | 5 | 39 | 38 | 76 | 221 | 113 | 11 | 150 | 244 | 187 | 188 | 224 | 167 |
| 3 | 15 | 40 | 106 | 77 | 88 | 114 | 29 | 151 | 35 | 188 | 251 | 225 | 214 |
| 4 | 17 | 41 | 190 | 78 | 232 | 115 | 39 | 152 | 101 | 189 | 50 | 226 | 69 |
| 5 | 51 | 42 | 253 | 79 | 7 | 116 | 105 | 153 | 175 | 190 | 86 | 227 | 207 |
| 6 | 85 | 43 | 56 | 80 | 9 | 117 | 187 | 154 | 206 | 191 | 250 | 228 | 110 |
| 7 | 255 | 44 | 72 | 81 | 27 | 118 | 242 | 155 | 109 | 192 | 49 | 229 | 178 |
| 8 | 62 | 45 | 216 | 82 | 45 | 119 | 41 | 156 | 183 | 193 | 83 | 230 | 233 |
| 9 | 66 | 46 | 87 | 83 | 119 | 120 | 123 | 157 | 230 | 194 | 245 | 231 | 4 |
| 10 | 198 | 47 | 249 | 84 | 153 | 121 | 141 | 158 | 21 | 195 | 32 | 232 | 12 |
| 11 | 117 | 48 | 52 | 85 | 148 | 122 | 168 | 159 | 63 | 196 | 96 | 233 | 20 |
| 12 | 159 | 49 | 92 | 86 | 131 | 123 | 199 | 160 | 65 | 197 | 160 | 234 | 60 |
| 13 | 158 | 50 | 228 | 87 | 186 | 124 | 118 | 161 | 195 | 198 | 223 | 235 | 68 |
| 14 | 157 | 51 | 19 | 88 | 241 | 125 | 154 | 162 | 122 | 199 | 94 | 236 | 204 |
| 15 | 152 | 52 | 53 | 89 | 44 | 126 | 145 | 163 | 142 | 200 | 226 | 237 | 107 |
| 16 | 151 | 53 | 95 | 90 | 116 | 127 | 140 | 164 | 173 | 201 | 25 | 238 | 189 |
| 17 | 134 | 54 | 225 | 91 | 156 | 128 | 171 | 165 | 200 | 202 | 43 | 239 | 248 |
| 18 | 181 | 55 | 28 | 92 | 155 | 129 | 194 | 166 | 103 | 203 | 125 | 240 | 55 |
| 19 | 224 | 56 | 36 | 93 | 146 | 130 | 121 | 167 | 169 | 204 | 135 | 241 | 89 |
| 20 | 31 | 57 | 108 | 94 | 137 | 131 | 139 | 168 | 196 | 205 | 182 | 242 | 235 |
| 21 | 33 | 58 | 180 | 95 | 164 | 132 | 162 | 169 | 115 | 206 | 229 | 243 | 2 |
| 22 | 99 | 59 | 227 | 96 | 211 | 133 | 217 | 170 | 149 | 207 | 16 | 244 | 6 |
| 23 | 165 | 60 | 26 | 97 | 74 | 134 | 84 | 171 | 128 | 208 | 48 | 245 | 10 |
| 24 | 208 | 61 | 46 | 98 | 222 | 135 | 252 | 172 | 191 | 209 | 80 | 246 | 30 |
| 25 | 79 | 62 | 114 | 99 | 93 | 136 | 59 | 173 | 254 | 210 | 240 | 247 | 34 |
| 26 | 209 | 63 | 150 | 100 | 231 | 137 | 77 | 174 | 61 | 211 | 47 | 248 | 102 |
| 27 | 76 | 64 | 133 | 101 | 22 | 138 | 215 | 175 | 71 | 212 | 113 | 249 | 170 |
| 28 | 212 | 65 | 176 | 102 | 58 | 139 | 70 | 176 | 201 | 213 | 147 | 250 | 193 |
| 29 | 67 | 66 | 239 | 103 | 78 | 140 | 202 | 177 | 100 | 214 | 138 | 251 | 124 |
| 30 | 197 | 67 | 14 | 104 | 210 | 141 | 97 | 178 | 172 | 215 | 161 | 252 | 132 |
| 31 | 112 | 68 | 18 | 105 | 73 | 142 | 163 | 179 | 203 | 216 | 220 | 253 | 179 |
| 32 | 144 | 69 | 54 | 106 | 219 | 143 | 218 | 180 | 98 | 217 | 91 | 254 | 234 |
| 33 | 143 | 70 | 90 | 107 | 82 | 144 | 81 | 181 | 166 | 218 | 237 | * | 0 |
| 34 | 174 | 71 | 238 | 108 | 246 | 145 | 243 | 182 | 213 | 219 | 8 | | |
| 35 | 205 | 72 | 13 | 109 | 37 | 146 | 42 | 183 | 64 | 220 | 24 | | |
| 36 | 104 | 73 | 23 | 110 | 111 | 147 | 126 | 184 | 192 | 221 | 40 | | |

Logarithm table for GF(256) with irreducible polynomial 319 (0x13F)

by Cody Planteen; https://codyplanteen.com/notes/rs; June 24, 2019

$$F(x) = x^8 + x^5 + x^4 + x^3 + x^2 + x + 1, \ \alpha = x + 1 = \mathbf{3} = \mathbf{0} \mathbf{x} \mathbf{0} \mathbf{3}$$

Example: $35 \cdot 36 = \alpha^{151} \alpha^{56} = \alpha^{207} = 16$

| $\overline{\alpha^j}$ | j | α^{j} | j |
|-----------------------|-----|--------------|-----|--------------|-----|--------------|-----|--------------|-----|--------------|-----|--------------|-----|
| 0 | * | 37 | 109 | 74 | 97 | 111 | 110 | 148 | 85 | 185 | 149 | 222 | 98 |
| 1 | 0 | 38 | 39 | 75 | 75 | 112 | 31 | 149 | 170 | 186 | 87 | 223 | 198 |
| 2 | 243 | 39 | 115 | 76 | 27 | 113 | 212 | 150 | 63 | 187 | 117 | 224 | 19 |
| 3 | 1 | 40 | 221 | 77 | 137 | 114 | 62 | 151 | 16 | 188 | 187 | 225 | 54 |
| 4 | 231 | 41 | 119 | 78 | 103 | 115 | 169 | 152 | 15 | 189 | 238 | 226 | 200 |
| 5 | 2 | 42 | 146 | 79 | 25 | 116 | 90 | 153 | 84 | 190 | 41 | 227 | 59 |
| 6 | 244 | 43 | 202 | 80 | 209 | 117 | 11 | 154 | 125 | 191 | 172 | 228 | 50 |
| 7 | 79 | 44 | 89 | 81 | 144 | 118 | 124 | 155 | 92 | 192 | 184 | 229 | 206 |
| 8 | 219 | 45 | 82 | 82 | 107 | 119 | 83 | 156 | 91 | 193 | 250 | 230 | 157 |
| 9 | 80 | 46 | 61 | 83 | 193 | 120 | 222 | 157 | 14 | 194 | 129 | 231 | 100 |
| 10 | 245 | 47 | 211 | 84 | 134 | 121 | 130 | 158 | 13 | 195 | 161 | 232 | 78 |
| 11 | 113 | 48 | 208 | 85 | 6 | 122 | 162 | 159 | 12 | 196 | 168 | 233 | 230 |
| 12 | 232 | 49 | 192 | 86 | 190 | 123 | 120 | 160 | 197 | 197 | 30 | 234 | 254 |
| 13 | 72 | 50 | 189 | 87 | 46 | 124 | 251 | 161 | 215 | 198 | 10 | 235 | 242 |
| 14 | 67 | 51 | 5 | 88 | 77 | 125 | 203 | 162 | 132 | 199 | 123 | 236 | 112 |
| 15 | 3 | 52 | 48 | 89 | 241 | 126 | 147 | 163 | 142 | 200 | 165 | 237 | 218 |
| 16 | 207 | 53 | 52 | 90 | 70 | 127 | 185 | 164 | 95 | 201 | 176 | 238 | 71 |
| 17 | 4 | 54 | 69 | 91 | 217 | 128 | 171 | 165 | 23 | 202 | 140 | 239 | 66 |
| 18 | 68 | 55 | 240 | 92 | 49 | 129 | 186 | 166 | 181 | 203 | 179 | 240 | 210 |
| 19 | 51 | 56 | 43 | 93 | 99 | 130 | 148 | 167 | 224 | 204 | 236 | 241 | 88 |
| 20 | 233 | 57 | 74 | 94 | 199 | 131 | 86 | 168 | 122 | 205 | 35 | 242 | 118 |
| 21 | 158 | 58 | 102 | 95 | 53 | 132 | 252 | 169 | 167 | 206 | 154 | 243 | 145 |
| 22 | 101 | 59 | 136 | 96 | 196 | 133 | 64 | 170 | 249 | 207 | 227 | 244 | 150 |
| 23 | 73 | 60 | 234 | 97 | 141 | 134 | 17 | 171 | 128 | 208 | 24 | 245 | 194 |
| 24 | 220 | 61 | 174 | 98 | 180 | 135 | 204 | 172 | 178 | 209 | 26 | 246 | 108 |
| 25 | 201 | 62 | 8 | 99 | 22 | 136 | 223 | 173 | 164 | 210 | 104 | 247 | 38 |
| 26 | 60 | 63 | 159 | 100 | 177 | 137 | 94 | 174 | 34 | 211 | 96 | 248 | 239 |
| 27 | 81 | 64 | 183 | 101 | 152 | 138 | 214 | 175 | 153 | 212 | 28 | 249 | 47 |
| 28 | 55 | 65 | 160 | 102 | 248 | 139 | 131 | 176 | 65 | 213 | 182 | 250 | 191 |
| 29 | 114 | 66 | 9 | 103 | 166 | 140 | 127 | 177 | 111 | 214 | 225 | 251 | 188 |
| 30 | 246 | 67 | 29 | 104 | 36 | 141 | 121 | 178 | 229 | 215 | 138 | 252 | 135 |
| 31 | 20 | 68 | 235 | 105 | 116 | 142 | 163 | 179 | 253 | 216 | 45 | 253 | 42 |
| 32 | 195 | 69 | 226 | 106 | 40 | 143 | 33 | 180 | 58 | 217 | 133 | 254 | 173 |
| 33 | 21 | 70 | 139 | 107 | 237 | 144 | 32 | 181 | 18 | 218 | 143 | 255 | 7 |
| 34 | 247 | 71 | 175 | 108 | 57 | 145 | 126 | 182 | 205 | 219 | 106 | | |
| 35 | 151 | 72 | 44 | 109 | 155 | 146 | 93 | 183 | 156 | 220 | 216 | | |
| 36 | 56 | 73 | 105 | 110 | 228 | 147 | 213 | 184 | 37 | 221 | 76 | | |

Anti-logarithm table for $\mathrm{GF}(256)$ with primitive, irreducible polynomial 333 $(0\mathrm{x}14\mathrm{D})$

by Cody Planteen; https://codyplanteen.com/notes/rs; June 24, 2019

 $F(x) = x^8 + x^6 + x^3 + x^2 + 1, \, \alpha = x + 0 = \text{ 2 = 0x02}$

| \overline{j} | α^{j} | j | α^j | j | α^{j} | j | α^{j} | j | α^{j} | j | α^{j} | j | α^j |
|----------------|--------------|----|------------|-----|--------------|-----|--------------|-----|--------------|-----|--------------|-----|------------|
| 0 | 1 | 37 | 66 | 74 | 173 | 111 | 109 | 148 | 22 | 185 | 152 | 222 | 129 |
| 1 | 2 | 38 | 132 | 75 | 23 | 112 | 218 | 149 | 44 | 186 | 125 | 223 | 79 |
| 2 | 4 | 39 | 69 | 76 | 46 | 113 | 249 | 150 | 88 | 187 | 250 | 224 | 158 |
| 3 | 8 | 40 | 138 | 77 | 92 | 114 | 191 | 151 | 176 | 188 | 185 | 225 | 113 |
| 4 | 16 | 41 | 89 | 78 | 184 | 115 | 51 | 152 | 45 | 189 | 63 | 226 | 226 |
| 5 | 32 | 42 | 178 | 79 | 61 | 116 | 102 | 153 | 90 | 190 | 126 | 227 | 137 |
| 6 | 64 | 43 | 41 | 80 | 122 | 117 | 204 | 154 | 180 | 191 | 252 | 228 | 95 |
| 7 | 128 | 44 | 82 | 81 | 244 | 118 | 213 | 155 | 37 | 192 | 181 | 229 | 190 |
| 8 | 77 | 45 | 164 | 82 | 165 | 119 | 231 | 156 | 74 | 193 | 39 | 230 | 49 |
| 9 | 154 | 46 | 5 | 83 | 7 | 120 | 131 | 157 | 148 | 194 | 78 | 231 | 98 |
| 10 | 121 | 47 | 10 | 84 | 14 | 121 | 75 | 158 | 101 | 195 | 156 | 232 | 196 |
| 11 | 242 | 48 | 20 | 85 | 28 | 122 | 150 | 159 | 202 | 196 | 117 | 233 | 197 |
| 12 | 169 | 49 | 40 | 86 | 56 | 123 | 97 | 160 | 217 | 197 | 234 | 234 | 199 |
| 13 | 31 | 50 | 80 | 87 | 112 | 124 | 194 | 161 | 255 | 198 | 153 | 235 | 195 |
| 14 | 62 | 51 | 160 | 88 | 224 | 125 | 201 | 162 | 179 | 199 | 127 | 236 | 203 |
| 15 | 124 | 52 | 13 | 89 | 141 | 126 | 223 | 163 | 43 | 200 | 254 | 237 | 219 |
| 16 | 248 | 53 | 26 | 90 | 87 | 127 | 243 | 164 | 86 | 201 | 177 | 238 | 251 |
| 17 | 189 | 54 | 52 | 91 | 174 | 128 | 171 | 165 | 172 | 202 | 47 | 239 | 187 |
| 18 | 55 | 55 | 104 | 92 | 17 | 129 | 27 | 166 | 21 | 203 | 94 | 240 | 59 |
| 19 | 110 | 56 | 208 | 93 | 34 | 130 | 54 | 167 | 42 | 204 | 188 | 241 | 118 |
| 20 | 220 | 57 | 237 | 94 | 68 | 131 | 108 | 168 | 84 | 205 | 53 | 242 | 236 |
| 21 | 245 | 58 | 151 | 95 | 136 | 132 | 216 | 169 | 168 | 206 | 106 | 243 | 149 |
| 22 | 167 | 59 | 99 | 96 | 93 | 133 | 253 | 170 | 29 | 207 | 212 | 244 | 103 |
| 23 | 3 | 60 | 198 | 97 | 186 | 134 | 183 | 171 | 58 | 208 | 229 | 245 | 206 |
| 24 | 6 | 61 | 193 | 98 | 57 | 135 | 35 | 172 | 116 | 209 | 135 | 246 | 209 |
| 25 | 12 | 62 | 207 | 99 | 114 | 136 | 70 | 173 | 232 | 210 | 67 | 247 | 239 |
| 26 | 24 | 63 | 211 | 100 | 228 | 137 | 140 | 174 | 157 | 211 | 134 | 248 | 147 |
| 27 | 48 | 64 | 235 | 101 | 133 | 138 | 85 | 175 | 119 | 212 | 65 | 249 | 107 |
| 28 | 96 | 65 | 155 | 102 | 71 | 139 | 170 | 176 | 238 | 213 | 130 | 250 | 214 |
| 29 | 192 | 66 | 123 | 103 | 142 | 140 | 25 | 177 | 145 | 214 | 73 | 251 | 225 |
| 30 | 205 | 67 | 246 | 104 | 81 | 141 | 50 | 178 | 111 | 215 | 146 | 252 | 143 |
| 31 | 215 | 68 | 161 | 105 | 162 | 142 | 100 | 179 | 222 | 216 | 105 | 253 | 83 |
| 32 | 227 | 69 | 15 | 106 | 9 | 143 | 200 | 180 | 241 | 217 | 210 | 254 | 166 |
| 33 | 139 | 70 | 30 | 107 | 18 | 144 | 221 | 181 | 175 | 218 | 233 | * | 0 |
| 34 | 91 | 71 | 60 | 108 | 36 | 145 | 247 | 182 | 19 | 219 | 159 | | |
| 35 | 182 | 72 | 120 | 109 | 72 | 146 | 163 | 183 | 38 | 220 | 115 | | |
| 36 | 33 | 73 | 240 | 110 | 144 | 147 | 11 | 184 | 76 | 221 | 230 | | |

Logarithm table for GF(256) with primitive, irreducible polynomial 333 (0x14D)

by Cody Planteen; https://codyplanteen.com/notes/rs; June 24, 2019

$$F(x) = x^8 + x^6 + x^3 + x^2 + 1, \ \alpha = x + 0 = {\rm 2 = 0x02}$$

Example: $35 \cdot 36 = \alpha^{135} \alpha^{108} = \alpha^{243} = 149$

| α^j | j | α^{j} | j | α^j | j | α^{j} | j | α^{j} | j | α^{j} | j | α^{j} | j |
|------------|-----|--------------|-----|------------|-----|--------------|-----|--------------|-----|--------------|-----|--------------|-----|
| 0 | * | 37 | 155 | 74 | 156 | 111 | 178 | 148 | 157 | 185 | 188 | 222 | 179 |
| 1 | 0 | 38 | 183 | 75 | 121 | 112 | 87 | 149 | 243 | 186 | 97 | 223 | 126 |
| 2 | 1 | 39 | 193 | 76 | 184 | 113 | 225 | 150 | 122 | 187 | 239 | 224 | 88 |
| 3 | 23 | 40 | 49 | 77 | 8 | 114 | 99 | 151 | 58 | 188 | 204 | 225 | 251 |
| 4 | 2 | 41 | 43 | 78 | 194 | 115 | 220 | 152 | 185 | 189 | 17 | 226 | 226 |
| 5 | 46 | 42 | 167 | 79 | 223 | 116 | 172 | 153 | 198 | 190 | 229 | 227 | 32 |
| 6 | 24 | 43 | 163 | 80 | 50 | 117 | 196 | 154 | 9 | 191 | 114 | 228 | 100 |
| 7 | 83 | 44 | 149 | 81 | 104 | 118 | 241 | 155 | 65 | 192 | 29 | 229 | 208 |
| 8 | 3 | 45 | 152 | 82 | 44 | 119 | 175 | 156 | 195 | 193 | 61 | 230 | 221 |
| 9 | 106 | 46 | 76 | 83 | 253 | 120 | 72 | 157 | 174 | 194 | 124 | 231 | 119 |
| 10 | 47 | 47 | 202 | 84 | 168 | 121 | 10 | 158 | 224 | 195 | 235 | 232 | 173 |
| 11 | 147 | 48 | 27 | 85 | 138 | 122 | 80 | 159 | 219 | 196 | 232 | 233 | 218 |
| 12 | 25 | 49 | 230 | 86 | 164 | 123 | 66 | 160 | 51 | 197 | 233 | 234 | 197 |
| 13 | 52 | 50 | 141 | 87 | 90 | 124 | 15 | 161 | 68 | 198 | 60 | 235 | 64 |
| 14 | 84 | 51 | 115 | 88 | 150 | 125 | 186 | 162 | 105 | 199 | 234 | 236 | 242 |
| 15 | 69 | 52 | 54 | 89 | 41 | 126 | 190 | 163 | 146 | 200 | 143 | 237 | 57 |
| 16 | 4 | 53 | 205 | 90 | 153 | 127 | 199 | 164 | 45 | 201 | 125 | 238 | 176 |
| 17 | 92 | 54 | 130 | 91 | 34 | 128 | 7 | 165 | 82 | 202 | 159 | 239 | 247 |
| 18 | 107 | 55 | 18 | 92 | 77 | 129 | 222 | 166 | 254 | 203 | 236 | 240 | 73 |
| 19 | 182 | 56 | 86 | 93 | 96 | 130 | 213 | 167 | 22 | 204 | 117 | 241 | 180 |
| 20 | 48 | 57 | 98 | 94 | 203 | 131 | 120 | 168 | 169 | 205 | 30 | 242 | 11 |
| 21 | 166 | 58 | 171 | 95 | 228 | 132 | 38 | 169 | 12 | 206 | 245 | 243 | 127 |
| 22 | 148 | 59 | 240 | 96 | 28 | 133 | 101 | 170 | 139 | 207 | 62 | 244 | 81 |
| 23 | 75 | 60 | 71 | 97 | 123 | 134 | 211 | 171 | 128 | 208 | 56 | 245 | 21 |
| 24 | 26 | 61 | 79 | 98 | 231 | 135 | 209 | 172 | 165 | 209 | 246 | 246 | 67 |
| 25 | 140 | 62 | 14 | 99 | 59 | 136 | 95 | 173 | 74 | 210 | 217 | 247 | 145 |
| 26 | 53 | 63 | 189 | 100 | 142 | 137 | 227 | 174 | 91 | 211 | 63 | 248 | 16 |
| 27 | 129 | 64 | 6 | 101 | 158 | 138 | 40 | 175 | 181 | 212 | 207 | 249 | 113 |
| 28 | 85 | 65 | 212 | 102 | 116 | 139 | 33 | 176 | 151 | 213 | 118 | 250 | 187 |
| 29 | 170 | 66 | 37 | 103 | 244 | 140 | 137 | 177 | 201 | 214 | 250 | 251 | 238 |
| 30 | 70 | 67 | 210 | 104 | 55 | 141 | 89 | 178 | 42 | 215 | 31 | 252 | 191 |
| 31 | 13 | 68 | 94 | 105 | 216 | 142 | 103 | 179 | 162 | 216 | 132 | 253 | 133 |
| 32 | 5 | 69 | 39 | 106 | 206 | 143 | 252 | 180 | 154 | 217 | 160 | 254 | 200 |
| 33 | 36 | 70 | 136 | 107 | 249 | 144 | 110 | 181 | 192 | 218 | 112 | 255 | 161 |
| 34 | 93 | 71 | 102 | 108 | 131 | 145 | 177 | 182 | 35 | 219 | 237 | | |
| 35 | 135 | 72 | 109 | 109 | 111 | 146 | 215 | 183 | 134 | 220 | 20 | | |
| 36 | 108 | 73 | 214 | 110 | 19 | 147 | 248 | 184 | 78 | 221 | 144 | | |

Anti-logarithm table for $\mathrm{GF}(256)$ with primitive, irreducible polynomial $351~(0\mathrm{x}15\mathrm{F})$

by Cody Planteen; https://codyplanteen.com/notes/rs; June 24, 2019

$$F(x) = x^8 + x^6 + x^4 + x^3 + x^2 + x + 1, \ \alpha = x + 0 = {\rm 2 = 0x02}$$

| \overline{j} | α^{j} | j | α^j | j | α^j | j | α^{j} | j | α^{j} | j | α^{j} | j | α^j |
|----------------|--------------|----|------------|-----|------------|-----|--------------|-----|--------------|-----|--------------|-----|------------|
| 0 | 1 | 37 | 45 | 74 | 114 | 111 | 15 | 148 | 244 | 185 | 112 | 222 | 85 |
| 1 | 2 | 38 | 90 | 75 | 228 | 112 | 30 | 149 | 183 | 186 | 224 | 223 | 170 |
| 2 | 4 | 39 | 180 | 76 | 151 | 113 | 60 | 150 | 49 | 187 | 159 | 224 | 11 |
| 3 | 8 | 40 | 55 | 77 | 113 | 114 | 120 | 151 | 98 | 188 | 97 | 225 | 22 |
| 4 | 16 | 41 | 110 | 78 | 226 | 115 | 240 | 152 | 196 | 189 | 194 | 226 | 44 |
| 5 | 32 | 42 | 220 | 79 | 155 | 116 | 191 | 153 | 215 | 190 | 219 | 227 | 88 |
| 6 | 64 | 43 | 231 | 80 | 105 | 117 | 33 | 154 | 241 | 191 | 233 | 228 | 176 |
| 7 | 128 | 44 | 145 | 81 | 210 | 118 | 66 | 155 | 189 | 192 | 141 | 229 | 63 |
| 8 | 95 | 45 | 125 | 82 | 251 | 119 | 132 | 156 | 37 | 193 | 69 | 230 | 126 |
| 9 | 190 | 46 | 250 | 83 | 169 | 120 | 87 | 157 | 74 | 194 | 138 | 231 | 252 |
| 10 | 35 | 47 | 171 | 84 | 13 | 121 | 174 | 158 | 148 | 195 | 75 | 232 | 167 |
| 11 | 70 | 48 | 9 | 85 | 26 | 122 | 3 | 159 | 119 | 196 | 150 | 233 | 17 |
| 12 | 140 | 49 | 18 | 86 | 52 | 123 | 6 | 160 | 238 | 197 | 115 | 234 | 34 |
| 13 | 71 | 50 | 36 | 87 | 104 | 124 | 12 | 161 | 131 | 198 | 230 | 235 | 68 |
| 14 | 142 | 51 | 72 | 88 | 208 | 125 | 24 | 162 | 89 | 199 | 147 | 236 | 136 |
| 15 | 67 | 52 | 144 | 89 | 255 | 126 | 48 | 163 | 178 | 200 | 121 | 237 | 79 |
| 16 | 134 | 53 | 127 | 90 | 161 | 127 | 96 | 164 | 59 | 201 | 242 | 238 | 158 |
| 17 | 83 | 54 | 254 | 91 | 29 | 128 | 192 | 165 | 118 | 202 | 187 | 239 | 99 |
| 18 | 166 | 55 | 163 | 92 | 58 | 129 | 223 | 166 | 236 | 203 | 41 | 240 | 198 |
| 19 | 19 | 56 | 25 | 93 | 116 | 130 | 225 | 167 | 135 | 204 | 82 | 241 | 211 |
| 20 | 38 | 57 | 50 | 94 | 232 | 131 | 157 | 168 | 81 | 205 | 164 | 242 | 249 |
| 21 | 76 | 58 | 100 | 95 | 143 | 132 | 101 | 169 | 162 | 206 | 23 | 243 | 173 |
| 22 | 152 | 59 | 200 | 96 | 65 | 133 | 202 | 170 | 27 | 207 | 46 | 244 | 5 |
| 23 | 111 | 60 | 207 | 97 | 130 | 134 | 203 | 171 | 54 | 208 | 92 | 245 | 10 |
| 24 | 222 | 61 | 193 | 98 | 91 | 135 | 201 | 172 | 108 | 209 | 184 | 246 | 20 |
| 25 | 227 | 62 | 221 | 99 | 182 | 136 | 205 | 173 | 216 | 210 | 47 | 247 | 40 |
| 26 | 153 | 63 | 229 | 100 | 51 | 137 | 197 | 174 | 239 | 211 | 94 | 248 | 80 |
| 27 | 109 | 64 | 149 | 101 | 102 | 138 | 213 | 175 | 129 | 212 | 188 | 249 | 160 |
| 28 | 218 | 65 | 117 | 102 | 204 | 139 | 245 | 176 | 93 | 213 | 39 | 250 | 31 |
| 29 | 235 | 66 | 234 | 103 | 199 | 140 | 181 | 177 | 186 | 214 | 78 | 251 | 62 |
| 30 | 137 | 67 | 139 | 104 | 209 | 141 | 53 | 178 | 43 | 215 | 156 | 252 | 124 |
| 31 | 77 | 68 | 73 | 105 | 253 | 142 | 106 | 179 | 86 | 216 | 103 | 253 | 248 |
| 32 | 154 | 69 | 146 | 106 | 165 | 143 | 212 | 180 | 172 | 217 | 206 | 254 | 175 |
| 33 | 107 | 70 | 123 | 107 | 21 | 144 | 247 | 181 | 7 | 218 | 195 | * | 0 |
| 34 | 214 | 71 | 246 | 108 | 42 | 145 | 177 | 182 | 14 | 219 | 217 | | |
| 35 | 243 | 72 | 179 | 109 | 84 | 146 | 61 | 183 | 28 | 220 | 237 | | |
| 36 | 185 | 73 | 57 | 110 | 168 | 147 | 122 | 184 | 56 | 221 | 133 | | |

Logarithm table for GF(256) with primitive, irreducible polynomial 351 (0x15F)

by Cody Planteen; https://codyplanteen.com/notes/rs; June 24, 2019

$$F(x) = x^8 + x^6 + x^4 + x^3 + x^2 + x + 1, \ \alpha = x + 0 = \text{2 = 0x02}$$

Example: $35 \cdot 36 = \alpha^{10} \alpha^{50} = \alpha^{60} = 207$

| α^{j} | j | α^{j} | j | α^{j} | j | α^{j} | j | C | χ^j | j | α | j | j | α^j | j |
|--------------|-----|--------------|-----|--------------|-----|--------------|-----|---|----------|-----|---|----|-----|------------|-----|
| 0 | * | 37 | 156 | 74 | 157 | 111 | 23 | 1 | 48 | 158 | 1 | 85 | 36 | 222 | 24 |
| 1 | 0 | 38 | 20 | 75 | 195 | 112 | 185 | 1 | 49 | 64 | | 86 | 177 | 223 | 129 |
| 2 | 1 | 39 | 213 | 76 | 21 | 113 | 77 | 1 | 150 | 196 | | 87 | 202 | 224 | 186 |
| 3 | 122 | 40 | 247 | 77 | 31 | 114 | 74 | | 151 | 76 | 1 | 88 | 212 | 225 | 130 |
| 4 | 2 | 41 | 203 | 78 | 214 | 115 | 197 | | 152 | 22 | | 89 | 155 | 226 | 78 |
| 5 | 244 | 42 | 108 | 79 | 237 | 116 | 93 | 1 | 153 | 26 | 1 | 90 | 9 | 227 | 25 |
| 6 | 123 | 43 | 178 | 80 | 248 | 117 | 65 | 1 | 154 | 32 | 1 | 91 | 116 | 228 | 75 |
| 7 | 181 | 44 | 226 | 81 | 168 | 118 | 165 | 1 | 155 | 79 | 1 | 92 | 128 | 229 | 63 |
| 8 | 3 | 45 | 37 | 82 | 204 | 119 | 159 | 1 | 156 | 215 | 1 | 93 | 61 | 230 | 198 |
| 9 | 48 | 46 | 207 | 83 | 17 | 120 | 114 | 1 | 157 | 131 | 1 | 94 | 189 | 231 | 43 |
| 10 | 245 | 47 | 210 | 84 | 109 | 121 | 200 | 1 | 158 | 238 | 1 | 95 | 218 | 232 | 94 |
| 11 | 224 | 48 | 126 | 85 | 222 | 122 | 147 | 1 | 159 | 187 | 1 | 96 | 152 | 233 | 191 |
| 12 | 124 | 49 | 150 | 86 | 179 | 123 | 70 | 1 | 60 | 249 | 1 | 97 | 137 | 234 | 66 |
| 13 | 84 | 50 | 57 | 87 | 120 | 124 | 252 | 1 | 61 | 90 | 1 | 98 | 240 | 235 | 29 |
| 14 | 182 | 51 | 100 | 88 | 227 | 125 | 45 | 1 | 62 | 169 | 1 | 99 | 103 | 236 | 166 |
| 15 | 111 | 52 | 86 | 89 | 162 | 126 | 230 | 1 | 63 | 55 | 2 | 00 | 59 | 237 | 220 |
| 16 | 4 | 53 | 141 | 90 | 38 | 127 | 53 | 1 | 64 | 205 | 2 | 01 | 135 | 238 | 160 |
| 17 | 233 | 54 | 171 | 91 | 98 | 128 | 7 | 1 | 165 | 106 | 2 | 02 | 133 | 239 | 174 |
| 18 | 49 | 55 | 40 | 92 | 208 | 129 | 175 | 1 | 166 | 18 | 2 | 03 | 134 | 240 | 115 |
| 19 | 19 | 56 | 184 | 93 | 176 | 130 | 97 | 1 | 167 | 232 | 2 | 04 | 102 | 241 | 154 |
| 20 | 246 | 57 | 73 | 94 | 211 | 131 | 161 | 1 | 68 | 110 | 2 | 05 | 136 | 242 | 201 |
| 21 | 107 | 58 | 92 | 95 | 8 | 132 | 119 | 1 | 69 | 83 | 2 | 06 | 217 | 243 | 35 |
| 22 | 225 | 59 | 164 | 96 | 127 | 133 | 221 | 1 | 170 | 223 | 2 | 07 | 60 | 244 | 148 |
| 23 | 206 | 60 | 113 | 97 | 188 | 134 | 16 | 1 | 171 | 47 | 2 | 08 | 88 | 245 | 139 |
| 24 | 125 | 61 | 146 | 98 | 151 | 135 | 167 | 1 | 172 | 180 | 2 | 09 | 104 | 246 | 71 |
| 25 | 56 | 62 | 251 | 99 | 239 | 136 | 236 | 1 | 173 | 243 | 2 | 10 | 81 | 247 | 144 |
| 26 | 85 | 63 | 229 | 100 | 58 | 137 | 30 | 1 | 174 | 121 | 2 | 11 | 241 | 248 | 253 |
| 27 | 170 | 64 | 6 | 101 | 132 | 138 | 194 | | 175 | 254 | | 12 | 143 | 249 | 242 |
| 28 | 183 | 65 | 96 | 102 | 101 | 139 | 67 | 1 | 176 | 228 | | 13 | 138 | 250 | 46 |
| 29 | 91 | 66 | 118 | 103 | 216 | 140 | 12 | 1 | 177 | 145 | 2 | 14 | 34 | 251 | 82 |
| 30 | 112 | 67 | 15 | 104 | 87 | 141 | 192 | 1 | 178 | 163 | 2 | 15 | 153 | 252 | 231 |
| 31 | 250 | 68 | 235 | 105 | 80 | 142 | 14 | 1 | 79 | 72 | 2 | 16 | 173 | 253 | 105 |
| 32 | 5 | 69 | 193 | 106 | 142 | 143 | 95 | 1 | 180 | 39 | 2 | 17 | 219 | 254 | 54 |
| 33 | 117 | 70 | 11 | 107 | 33 | 144 | 52 | 1 | 181 | 140 | 2 | 18 | 28 | 255 | 89 |
| 34 | 234 | 71 | 13 | 108 | 172 | 145 | 44 | 1 | 82 | 99 | 2 | 19 | 190 | | |
| 35 | 10 | 72 | 51 | 109 | 27 | 146 | 69 | 1 | 83 | 149 | 2 | 20 | 42 | | |
| 36 | 50 | 73 | 68 | 110 | 41 | 147 | 199 | 1 | 184 | 209 | 2 | 21 | 62 | | |

Anti-logarithm table for $\mathrm{GF}(256)$ with primitive, irreducible polynomial 355 $(0\mathrm{x}163)$

by Cody Planteen; https://codyplanteen.com/notes/rs; June 24, 2019

 $F(x) = x^8 + x^6 + x^5 + x + 1, \, \alpha = x + 0 = \text{ 2 = 0x02}$

| \overline{j} | α^j | j | α^j | j | α^{j} | j | α^{j} | j | | α^{j} | Ĵ | i | α^j | j | α^j |
|----------------|------------|----|------------|-----|--------------|-----|--------------|----|---------|--------------|---|-----|------------|-----|------------|
| 0 | 1 | 37 | 13 | 74 | 81 | 111 | 56 | 14 | 18 | 123 | 1 | 185 | 137 | 222 | 204 |
| 1 | 2 | 38 | 26 | 75 | 162 | 112 | 112 | 14 | 19 | 246 | 1 | 186 | 113 | 223 | 251 |
| 2 | 4 | 39 | 52 | 76 | 39 | 113 | 224 | 15 | 60 | 143 | 1 | 187 | 226 | 224 | 149 |
| 3 | 8 | 40 | 104 | 77 | 78 | 114 | 163 | 15 | 51 | 125 | 1 | 188 | 167 | 225 | 73 |
| 4 | 16 | 41 | 208 | 78 | 156 | 115 | 37 | 15 | 52 | 250 | 1 | 189 | 45 | 226 | 146 |
| 5 | 32 | 42 | 195 | 79 | 91 | 116 | 74 | 15 | 3 | 151 | 1 | 190 | 90 | 227 | 71 |
| 6 | 64 | 43 | 229 | 80 | 182 | 117 | 148 | 15 | 64 | 77 | 1 | 191 | 180 | 228 | 142 |
| 7 | 128 | 44 | 169 | 81 | 15 | 118 | 75 | 15 | 55 | 154 | 1 | 192 | 11 | 229 | 127 |
| 8 | 99 | 45 | 49 | 82 | 30 | 119 | 150 | 15 | 66 | 87 | 1 | 193 | 22 | 230 | 254 |
| 9 | 198 | 46 | 98 | 83 | 60 | 120 | 79 | 15 | 57 | 174 | 1 | 194 | 44 | 231 | 159 |
| 10 | 239 | 47 | 196 | 84 | 120 | 121 | 158 | 15 | 8 | 63 | 1 | 195 | 88 | 232 | 93 |
| 11 | 189 | 48 | 235 | 85 | 240 | 122 | 95 | 15 | 59 | 126 | 1 | 196 | 176 | 233 | 186 |
| 12 | 25 | 49 | 181 | 86 | 131 | 123 | 190 | 16 | 60 | 252 | 1 | 197 | 3 | 234 | 23 |
| 13 | 50 | 50 | 9 | 87 | 101 | 124 | 31 | 16 | 31 | 155 | 1 | 198 | 6 | 235 | 46 |
| 14 | 100 | 51 | 18 | 88 | 202 | 125 | 62 | 16 | 32 | 85 | 1 | 199 | 12 | 236 | 92 |
| 15 | 200 | 52 | 36 | 89 | 247 | 126 | 124 | 16 | 3 | 170 | 2 | 200 | 24 | 237 | 184 |
| 16 | 243 | 53 | 72 | 90 | 141 | 127 | 248 | 16 | 64 | 55 | 2 | 201 | 48 | 238 | 19 |
| 17 | 133 | 54 | 144 | 91 | 121 | 128 | 147 | 16 | 55 | 110 | 2 | 202 | 96 | 239 | 38 |
| 18 | 105 | 55 | 67 | 92 | 242 | 129 | 69 | 16 | 66 | 220 | 2 | 203 | 192 | 240 | 76 |
| 19 | 210 | 56 | 134 | 93 | 135 | 130 | 138 | 16 | 37 | 219 | 2 | 204 | 227 | 241 | 152 |
| 20 | 199 | 57 | 111 | 94 | 109 | 131 | 119 | 16 | 8 | 213 | 2 | 205 | 165 | 242 | 83 |
| 21 | 237 | 58 | 222 | 95 | 218 | 132 | 238 | 16 | 69 | 201 | 2 | 206 | 41 | 243 | 166 |
| 22 | 185 | 59 | 223 | 96 | 215 | 133 | 191 | 17 | 70 | 241 | 2 | 207 | 82 | 244 | 47 |
| 23 | 17 | 60 | 221 | 97 | 205 | 134 | 29 | 17 | 71 | 129 | 2 | 208 | 164 | 245 | 94 |
| 24 | 34 | 61 | 217 | 98 | 249 | 135 | 58 | 17 | 72 | 97 | 2 | 209 | 43 | 246 | 188 |
| 25 | 68 | 62 | 209 | 99 | 145 | 136 | 116 | 17 | 73 | 194 | 2 | 210 | 86 | 247 | 27 |
| 26 | 136 | 63 | 193 | 100 | 65 | 137 | 232 | 17 | $^{7}4$ | 231 | 2 | 211 | 172 | 248 | 54 |
| 27 | 115 | 64 | 225 | 101 | 130 | 138 | 179 | 17 | 75 | 173 | 2 | 212 | 59 | 249 | 108 |
| 28 | 230 | 65 | 161 | 102 | 103 | 139 | 5 | 17 | 6 | 57 | 2 | 213 | 118 | 250 | 216 |
| 29 | 175 | 66 | 33 | 103 | 206 | 140 | 10 | 17 | 77 | 114 | 2 | 214 | 236 | 251 | 211 |
| 30 | 61 | 67 | 66 | 104 | 255 | 141 | 20 | 17 | 78 | 228 | 2 | 215 | 187 | 252 | 197 |
| 31 | 122 | 68 | 132 | 105 | 157 | 142 | 40 | 17 | 79 | 171 | 2 | 216 | 21 | 253 | 233 |
| 32 | 244 | 69 | 107 | 106 | 89 | 143 | 80 | 18 | 30 | 53 | 2 | 217 | 42 | 254 | 177 |
| 33 | 139 | 70 | 214 | 107 | 178 | 144 | 160 | 18 | 31 | 106 | 2 | 218 | 84 | * | 0 |
| 34 | 117 | 71 | 207 | 108 | 7 | 145 | 35 | 18 | 32 | 212 | 2 | 219 | 168 | | |
| 35 | 234 | 72 | 253 | 109 | 14 | 146 | 70 | 18 | 33 | 203 | 2 | 220 | 51 | | |
| 36 | 183 | 73 | 153 | 110 | 28 | 147 | 140 | 18 | 34 | 245 | 2 | 221 | 102 | | |

Logarithm table for GF(256) with primitive, irreducible polynomial 355 (0x163)

by Cody Planteen; https://codyplanteen.com/notes/rs; June 24, 2019

$$F(x) = x^8 + x^6 + x^5 + x + 1, \, \alpha = x + 0 = \text{ 2 = 0x02}$$

Example: $35 \cdot 36 = \alpha^{145} \alpha^{52} = \alpha^{197} = 3$

| $\overline{\alpha^j}$ | j | α^{j} | j |
|-----------------------|-----|--------------|-----|--------------|-----|--------------|-----|--------------|-----|--------------|-----|--------------|-----|
| 0 | * | 37 | 115 | 74 | 116 | 111 | 57 | 148 | 117 | 185 | 22 | 222 | 58 |
| 1 | 0 | 38 | 239 | 75 | 118 | 112 | 112 | 149 | 224 | 186 | 233 | 223 | 59 |
| 2 | 1 | 39 | 76 | 76 | 240 | 113 | 186 | 150 | 119 | 187 | 215 | 224 | 113 |
| 3 | 197 | 40 | 142 | 77 | 154 | 114 | 177 | 151 | 153 | 188 | 246 | 225 | 64 |
| 4 | 2 | 41 | 206 | 78 | 77 | 115 | 27 | 152 | 241 | 189 | 11 | 226 | 187 |
| 5 | 139 | 42 | 217 | 79 | 120 | 116 | 136 | 153 | 73 | 190 | 123 | 227 | 204 |
| 6 | 198 | 43 | 209 | 80 | 143 | 117 | 34 | 154 | 155 | 191 | 133 | 228 | 178 |
| 7 | 108 | 44 | 194 | 81 | 74 | 118 | 213 | 155 | 161 | 192 | 203 | 229 | 43 |
| 8 | 3 | 45 | 189 | 82 | 207 | 119 | 131 | 156 | 78 | 193 | 63 | 230 | 28 |
| 9 | 50 | 46 | 235 | 83 | 242 | 120 | 84 | 157 | 105 | 194 | 173 | 231 | 174 |
| 10 | 140 | 47 | 244 | 84 | 218 | 121 | 91 | 158 | 121 | 195 | 42 | 232 | 137 |
| 11 | 192 | 48 | 201 | 85 | 162 | 122 | 31 | 159 | 231 | 196 | 47 | 233 | 253 |
| 12 | 199 | 49 | 45 | 86 | 210 | 123 | 148 | 160 | 144 | 197 | 252 | 234 | 35 |
| 13 | 37 | 50 | 13 | 87 | 156 | 124 | 126 | 161 | 65 | 198 | 9 | 235 | 48 |
| 14 | 109 | 51 | 220 | 88 | 195 | 125 | 151 | 162 | 75 | 199 | 20 | 236 | 214 |
| 15 | 81 | 52 | 39 | 89 | 106 | 126 | 159 | 163 | 114 | 200 | 15 | 237 | 21 |
| 16 | 4 | 53 | 180 | 90 | 190 | 127 | 229 | 164 | 208 | 201 | 169 | 238 | 132 |
| 17 | 23 | 54 | 248 | 91 | 79 | 128 | 7 | 165 | 205 | 202 | 88 | 239 | 10 |
| 18 | 51 | 55 | 164 | 92 | 236 | 129 | 171 | 166 | 243 | 203 | 183 | 240 | 85 |
| 19 | 238 | 56 | 111 | 93 | 232 | 130 | 101 | 167 | 188 | 204 | 222 | 241 | 170 |
| 20 | 141 | 57 | 176 | 94 | 245 | 131 | 86 | 168 | 219 | 205 | 97 | 242 | 92 |
| 21 | 216 | 58 | 135 | 95 | 122 | 132 | 68 | 169 | 44 | 206 | 103 | 243 | 16 |
| 22 | 193 | 59 | 212 | 96 | 202 | 133 | 17 | 170 | 163 | 207 | 71 | 244 | 32 |
| 23 | 234 | 60 | 83 | 97 | 172 | 134 | 56 | 171 | 179 | 208 | 41 | 245 | 184 |
| 24 | 200 | 61 | 30 | 98 | 46 | 135 | 93 | 172 | 211 | 209 | 62 | 246 | 149 |
| 25 | 12 | 62 | 125 | 99 | 8 | 136 | 26 | 173 | 175 | 210 | 19 | 247 | 89 |
| 26 | 38 | 63 | 158 | 100 | 14 | 137 | 185 | 174 | 157 | 211 | 251 | 248 | 127 |
| 27 | 247 | 64 | 6 | 101 | 87 | 138 | 130 | 175 | 29 | 212 | 182 | 249 | 98 |
| 28 | 110 | 65 | 100 | 102 | 221 | 139 | 33 | 176 | 196 | 213 | 168 | 250 | 152 |
| 29 | 134 | 66 | 67 | 103 | 102 | 140 | 147 | 177 | 254 | 214 | 70 | 251 | 223 |
| 30 | 82 | 67 | 55 | 104 | 40 | 141 | 90 | 178 | 107 | 215 | 96 | 252 | 160 |
| 31 | 124 | 68 | 25 | 105 | 18 | 142 | 228 | 179 | 138 | 216 | 250 | 253 | 72 |
| 32 | 5 | 69 | 129 | 106 | 181 | 143 | 150 | 180 | 191 | 217 | 61 | 254 | 230 |
| 33 | 66 | 70 | 146 | 107 | 69 | 144 | 54 | 181 | 49 | 218 | 95 | 255 | 104 |
| 34 | 24 | 71 | 227 | 108 | 249 | 145 | 99 | 182 | 80 | 219 | 167 | | |
| 35 | 145 | 72 | 53 | 109 | 94 | 146 | 226 | 183 | 36 | 220 | 166 | | |
| 36 | 52 | 73 | 225 | 110 | 165 | 147 | 128 | 184 | 237 | 221 | 60 | | |

Anti-logarithm table for $\mathrm{GF}(256)$ with primitive, irreducible polynomial 357 (0x165)

by Cody Planteen; https://codyplanteen.com/notes/rs; June 24, 2019

 $F(x) = x^8 + x^6 + x^5 + x^2 + 1, \, \alpha = x + 0 = \text{ 2 = 0x02}$

| \overline{j} | α^{j} | j | α^j | j | α^{j} | j | α^{j} | j | α^{j} | j | α^j | j | α^{j} |
|----------------|--------------|----|------------|-----|--------------|-----|--------------|-----|--------------|-----|------------|-----|--------------|
| 0 | 1 | 37 | 142 | 74 | 157 | 111 | 13 | 148 | 253 | 185 | 58 | 222 | 81 |
| 1 | 2 | 38 | 121 | 75 | 95 | 112 | 26 | 149 | 159 | 186 | 116 | 223 | 162 |
| 2 | 4 | 39 | 242 | 76 | 190 | 113 | 52 | 150 | 91 | 187 | 232 | 224 | 33 |
| 3 | 8 | 40 | 129 | 77 | 25 | 114 | 104 | 151 | 182 | 188 | 181 | 225 | 66 |
| 4 | 16 | 41 | 103 | 78 | 50 | 115 | 208 | 152 | 9 | 189 | 15 | 226 | 132 |
| 5 | 32 | 42 | 206 | 79 | 100 | 116 | 197 | 153 | 18 | 190 | 30 | 227 | 109 |
| 6 | 64 | 43 | 249 | 80 | 200 | 117 | 239 | 154 | 36 | 191 | 60 | 228 | 218 |
| 7 | 128 | 44 | 151 | 81 | 245 | 118 | 187 | 155 | 72 | 192 | 120 | 229 | 209 |
| 8 | 101 | 45 | 75 | 82 | 143 | 119 | 19 | 156 | 144 | 193 | 240 | 230 | 199 |
| 9 | 202 | 46 | 150 | 83 | 123 | 120 | 38 | 157 | 69 | 194 | 133 | 231 | 235 |
| 10 | 241 | 47 | 73 | 84 | 246 | 121 | 76 | 158 | 138 | 195 | 111 | 232 | 179 |
| 11 | 135 | 48 | 146 | 85 | 137 | 122 | 152 | 159 | 113 | 196 | 222 | 233 | 3 |
| 12 | 107 | 49 | 65 | 86 | 119 | 123 | 85 | 160 | 226 | 197 | 217 | 234 | 6 |
| 13 | 214 | 50 | 130 | 87 | 238 | 124 | 170 | 161 | 161 | 198 | 215 | 235 | 12 |
| 14 | 201 | 51 | 97 | 88 | 185 | 125 | 49 | 162 | 39 | 199 | 203 | 236 | 24 |
| 15 | 247 | 52 | 194 | 89 | 23 | 126 | 98 | 163 | 78 | 200 | 243 | 237 | 48 |
| 16 | 139 | 53 | 225 | 90 | 46 | 127 | 196 | 164 | 156 | 201 | 131 | 238 | 96 |
| 17 | 115 | 54 | 167 | 91 | 92 | 128 | 237 | 165 | 93 | 202 | 99 | 239 | 192 |
| 18 | 230 | 55 | 43 | 92 | 184 | 129 | 191 | 166 | 186 | 203 | 198 | 240 | 229 |
| 19 | 169 | 56 | 86 | 93 | 21 | 130 | 27 | 167 | 17 | 204 | 233 | 241 | 175 |
| 20 | 55 | 57 | 172 | 94 | 42 | 131 | 54 | 168 | 34 | 205 | 183 | 242 | 59 |
| 21 | 110 | 58 | 61 | 95 | 84 | 132 | 108 | 169 | 68 | 206 | 11 | 243 | 118 |
| 22 | 220 | 59 | 122 | 96 | 168 | 133 | 216 | 170 | 136 | 207 | 22 | 244 | 236 |
| 23 | 221 | 60 | 244 | 97 | 53 | 134 | 213 | 171 | 117 | 208 | 44 | 245 | 189 |
| 24 | 223 | 61 | 141 | 98 | 106 | 135 | 207 | 172 | 234 | 209 | 88 | 246 | 31 |
| 25 | 219 | 62 | 127 | 99 | 212 | 136 | 251 | 173 | 177 | 210 | 176 | 247 | 62 |
| 26 | 211 | 63 | 254 | 100 | 205 | 137 | 147 | 174 | 7 | 211 | 5 | 248 | 124 |
| 27 | 195 | 64 | 153 | 101 | 255 | 138 | 67 | 175 | 14 | 212 | 10 | 249 | 248 |
| 28 | 227 | 65 | 87 | 102 | 155 | 139 | 134 | 176 | 28 | 213 | 20 | 250 | 149 |
| 29 | 163 | 66 | 174 | 103 | 83 | 140 | 105 | 177 | 56 | 214 | 40 | 251 | 79 |
| 30 | 35 | 67 | 57 | 104 | 166 | 141 | 210 | 178 | 112 | 215 | 80 | 252 | 158 |
| 31 | 70 | 68 | 114 | 105 | 41 | 142 | 193 | 179 | 224 | 216 | 160 | 253 | 89 |
| 32 | 140 | 69 | 228 | 106 | 82 | 143 | 231 | 180 | 165 | 217 | 37 | 254 | 178 |
| 33 | 125 | 70 | 173 | 107 | 164 | 144 | 171 | 181 | 47 | 218 | 74 | * | 0 |
| 34 | 250 | 71 | 63 | 108 | 45 | 145 | 51 | 182 | 94 | 219 | 148 | | |
| 35 | 145 | 72 | 126 | 109 | 90 | 146 | 102 | 183 | 188 | 220 | 77 | | |
| 36 | 71 | 73 | 252 | 110 | 180 | 147 | 204 | 184 | 29 | 221 | 154 | | |

Logarithm table for GF(256) with primitive, irreducible polynomial 357 (0x165)

by Cody Planteen; https://codyplanteen.com/notes/rs; June 24, 2019

$$F(x) = x^8 + x^6 + x^5 + x^2 + 1, \, \alpha = x + 0 = \text{ 2 = 0x02}$$

Example: $35 \cdot 36 = \alpha^{30} \alpha^{154} = \alpha^{184} = 29$

| α^{j} | j |
|--------------|-----|--------------|-----|--------------|-----|--------------|-----|--------------|-----|--------------|-----|--------------|-----|
| 0 | * | 37 | 217 | 74 | 218 | 111 | 195 | 148 | 219 | 185 | 88 | 222 | 196 |
| 1 | 0 | 38 | 120 | 75 | 45 | 112 | 178 | 149 | 250 | 186 | 166 | 223 | 24 |
| 2 | 1 | 39 | 162 | 76 | 121 | 113 | 159 | 150 | 46 | 187 | 118 | 224 | 179 |
| 3 | 233 | 40 | 214 | 77 | 220 | 114 | 68 | 151 | 44 | 188 | 183 | 225 | 53 |
| 4 | 2 | 41 | 105 | 78 | 163 | 115 | 17 | 152 | 122 | 189 | 245 | 226 | 160 |
| 5 | 211 | 42 | 94 | 79 | 251 | 116 | 186 | 153 | 64 | 190 | 76 | 227 | 28 |
| 6 | 234 | 43 | 55 | 80 | 215 | 117 | 171 | 154 | 221 | 191 | 129 | 228 | 69 |
| 7 | 174 | 44 | 208 | 81 | 222 | 118 | 243 | 155 | 102 | 192 | 239 | 229 | 240 |
| 8 | 3 | 45 | 108 | 82 | 106 | 119 | 86 | 156 | 164 | 193 | 142 | 230 | 18 |
| 9 | 152 | 46 | 90 | 83 | 103 | 120 | 192 | 157 | 74 | 194 | 52 | 231 | 143 |
| 10 | 212 | 47 | 181 | 84 | 95 | 121 | 38 | 158 | 252 | 195 | 27 | 232 | 187 |
| 11 | 206 | 48 | 237 | 85 | 123 | 122 | 59 | 159 | 149 | 196 | 127 | 233 | 204 |
| 12 | 235 | 49 | 125 | 86 | 56 | 123 | 83 | 160 | 216 | 197 | 116 | 234 | 172 |
| 13 | 111 | 50 | 78 | 87 | 65 | 124 | 248 | 161 | 161 | 198 | 203 | 235 | 231 |
| 14 | 175 | 51 | 145 | 88 | 209 | 125 | 33 | 162 | 223 | 199 | 230 | 236 | 244 |
| 15 | 189 | 52 | 113 | 89 | 253 | 126 | 72 | 163 | 29 | 200 | 80 | 237 | 128 |
| 16 | 4 | 53 | 97 | 90 | 109 | 127 | 62 | 164 | 107 | 201 | 14 | 238 | 87 |
| 17 | 167 | 54 | 131 | 91 | 150 | 128 | 7 | 165 | 180 | 202 | 9 | 239 | 117 |
| 18 | 153 | 55 | 20 | 92 | 91 | 129 | 40 | 166 | 104 | 203 | 199 | 240 | 193 |
| 19 | 119 | 56 | 177 | 93 | 165 | 130 | 50 | 167 | 54 | 204 | 147 | 241 | 10 |
| 20 | 213 | 57 | 67 | 94 | 182 | 131 | 201 | 168 | 96 | 205 | 100 | 242 | 39 |
| 21 | 93 | 58 | 185 | 95 | 75 | 132 | 226 | 169 | 19 | 206 | 42 | 243 | 200 |
| 22 | 207 | 59 | 242 | 96 | 238 | 133 | 194 | 170 | 124 | 207 | 135 | 244 | 60 |
| 23 | 89 | 60 | 191 | 97 | 51 | 134 | 139 | 171 | 144 | 208 | 115 | 245 | 81 |
| 24 | 236 | 61 | 58 | 98 | 126 | 135 | 11 | 172 | 57 | 209 | 229 | 246 | 84 |
| 25 | 77 | 62 | 247 | 99 | 202 | 136 | 170 | 173 | 70 | 210 | 141 | 247 | 15 |
| 26 | 112 | 63 | 71 | 100 | 79 | 137 | 85 | 174 | 66 | 211 | 26 | 248 | 249 |
| 27 | 130 | 64 | 6 | 101 | 8 | 138 | 158 | 175 | 241 | 212 | 99 | 249 | 43 |
| 28 | 176 | 65 | 49 | 102 | 146 | 139 | 16 | 176 | 210 | 213 | 134 | 250 | 34 |
| 29 | 184 | 66 | 225 | 103 | 41 | 140 | 32 | 177 | 173 | 214 | 13 | 251 | 136 |
| 30 | 190 | 67 | 138 | 104 | 114 | 141 | 61 | 178 | 254 | 215 | 198 | 252 | 73 |
| 31 | 246 | 68 | 169 | 105 | 140 | 142 | 37 | 179 | 232 | 216 | 133 | 253 | 148 |
| 32 | 5 | 69 | 157 | 106 | 98 | 143 | 82 | 180 | 110 | 217 | 197 | 254 | 63 |
| 33 | 224 | 70 | 31 | 107 | 12 | 144 | 156 | 181 | 188 | 218 | 228 | 255 | 101 |
| 34 | 168 | 71 | 36 | 108 | 132 | 145 | 35 | 182 | 151 | 219 | 25 | | |
| 35 | 30 | 72 | 155 | 109 | 227 | 146 | 48 | 183 | 205 | 220 | 22 | | |
| 36 | 154 | 73 | 47 | 110 | 21 | 147 | 137 | 184 | 92 | 221 | 23 | | |

Anti-logarithm table for $\mathrm{GF}(256)$ with primitive, irreducible polynomial $361~(0\mathrm{x}169)$

by Cody Planteen; https://codyplanteen.com/notes/rs; June 24, 2019

 $F(x) = x^8 + x^6 + x^5 + x^3 + 1, \, \alpha = x + 0 = \text{ 2 = 0x02}$

| \overline{j} | α^j | j | α^j | j | α^{j} | j | α^j | j | α | j j | α^{j} | j | α^{j} |
|----------------|------------|----|------------|-----|--------------|-----|------------|----|----------|-------|--------------|-----|--------------|
| 0 | 1 | 37 | 160 | 74 | 35 | 111 | 203 | 14 | 8 20 | 00 18 | 5 65 | 222 | 36 |
| 1 | 2 | 38 | 41 | 75 | 70 | 112 | 255 | 14 | 9 	 24 | 19 18 | | 223 | 72 |
| 2 | 4 | 39 | 82 | 76 | 140 | 113 | 151 | 15 | | 55 18 | 7 109 | 224 | 144 |
| 3 | 8 | 40 | 164 | 77 | 113 | 114 | 71 | 15 | 1 95 | 5 18 | | 225 | 73 |
| 4 | 16 | 41 | 33 | 78 | 226 | 115 | 142 | 15 | 2 19 | 90 18 | | 226 | 146 |
| 5 | 32 | 42 | 66 | 79 | 173 | 116 | 117 | 15 | 3 2 | 19 | 0 211 | 227 | 77 |
| 6 | 64 | 43 | 132 | 80 | 51 | 117 | 234 | 15 | 4 42 | 2 19 | 1 207 | 228 | 154 |
| 7 | 128 | 44 | 97 | 81 | 102 | 118 | 189 | 15 | 5 84 | 19 | 2 247 | 229 | 93 |
| 8 | 105 | 45 | 194 | 82 | 204 | 119 | 19 | 15 | 6 10 | 38 19 | 3 - 135 | 230 | 186 |
| 9 | 210 | 46 | 237 | 83 | 241 | 120 | 38 | 15 | 7 5' | 7 19 | 4 103 | 231 | 29 |
| 10 | 205 | 47 | 179 | 84 | 139 | 121 | 76 | 15 | 8 1 | 14 19 | 5 206 | 232 | 58 |
| 11 | 243 | 48 | 15 | 85 | 127 | 122 | 152 | 15 | | 28 19 | | 233 | 116 |
| 12 | 143 | 49 | 30 | 86 | 254 | 123 | 89 | 16 | 0 10 | 31 19 | 7 131 | 234 | 232 |
| 13 | 119 | 50 | 60 | 87 | 149 | 124 | 178 | 16 | 1 4 | 3 19 | 8 111 | 235 | 185 |
| 14 | 238 | 51 | 120 | 88 | 67 | 125 | 13 | 16 | 2 80 | 5 19 | 9 222 | 236 | 27 |
| 15 | 181 | 52 | 240 | 89 | 134 | 126 | 26 | 16 | 3 1' | 72 20 | 0 213 | 237 | 54 |
| 16 | 3 | 53 | 137 | 90 | 101 | 127 | 52 | 16 | 4 49 | 9 20 | 1 195 | 238 | 108 |
| 17 | 6 | 54 | 123 | 91 | 202 | 128 | 104 | 16 | 5 98 | 3 20 | 2 239 | 239 | 216 |
| 18 | 12 | 55 | 246 | 92 | 253 | 129 | 208 | 16 | 6 19 | 96 20 | 3 183 | 240 | 217 |
| 19 | 24 | 56 | 133 | 93 | 147 | 130 | 201 | 16 | 7 25 | 25 20 | 4 7 | 241 | 219 |
| 20 | 48 | 57 | 99 | 94 | 79 | 131 | 251 | 16 | 8 1' | 71 20 | 5 14 | 242 | 223 |
| 21 | 96 | 58 | 198 | 95 | 158 | 132 | 159 | 16 | 9 6 | 3 20 | 6 28 | 243 | 215 |
| 22 | 192 | 59 | 229 | 96 | 85 | 133 | 87 | 17 | 0 1: | 26 20 | 7 56 | 244 | 199 |
| 23 | 233 | 60 | 163 | 97 | 170 | 134 | 174 | 17 | 1 2 | 52 20 | 8 112 | 245 | 231 |
| 24 | 187 | 61 | 47 | 98 | 61 | 135 | 53 | 17 | 2 1 | 45 20 | 9 224 | 246 | 167 |
| 25 | 31 | 62 | 94 | 99 | 122 | 136 | 106 | 17 | 3 7 | 5 21 | 0 169 | 247 | 39 |
| 26 | 62 | 63 | 188 | 100 | 244 | 137 | 212 | 17 | 4 1 | 50 21 | 1 59 | 248 | 78 |
| 27 | 124 | 64 | 17 | 101 | 129 | 138 | 193 | 17 | 5 69 | 9 21 | 2 118 | 249 | 156 |
| 28 | 248 | 65 | 34 | 102 | 107 | 139 | 235 | 17 | 6 13 | 38 21 | 3 236 | 250 | 81 |
| 29 | 153 | 66 | 68 | 103 | 214 | 140 | 191 | 17 | 7 1: | 25 21 | 4 177 | 251 | 162 |
| 30 | 91 | 67 | 136 | 104 | 197 | 141 | 23 | 17 | 8 2 | 50 21 | 5 11 | 252 | 45 |
| 31 | 182 | 68 | 121 | 105 | 227 | 142 | 46 | 17 | 9 1 | 57 21 | 6 22 | 253 | 90 |
| 32 | 5 | 69 | 242 | 106 | 175 | 143 | 92 | 18 | 0 8 | 3 21 | 7 44 | 254 | 180 |
| 33 | 10 | 70 | 141 | 107 | 55 | 144 | 184 | 18 | | 66 21 | | * | 0 |
| 34 | 20 | 71 | 115 | 108 | 110 | 145 | 25 | 18 | 2 3' | 7 21 | 9 176 | | |
| 35 | 40 | 72 | 230 | 109 | 220 | 146 | 50 | 18 | | | | | |
| 36 | 80 | 73 | 165 | 110 | 209 | 147 | 100 | 18 | | 18 22 | | | |

Logarithm table for GF(256) with primitive, irreducible polynomial 361 (0x169)

by Cody Planteen; https://codyplanteen.com/notes/rs; June 24, 2019

$$F(x) = x^8 + x^6 + x^5 + x^3 + 1, \ \alpha = x + 0 = \text{2 = 0x02}$$

Example: $35 \cdot 36 = \alpha^{74} \alpha^{222} = \alpha^{296} = \alpha^{296 \mod 255} = \alpha^{41} = 33$

| $\frac{\alpha^j}{}$ | j | α^{j} | j | α^{j} | j | $lpha^j$ | j | α^{j} | j | α^{j} | j | α^{j} | j |
|---------------------|-----|--------------|-----|--------------|-----|----------|-----|--------------|-----|--------------|-----|--------------|-----|
| 0 | * | 37 | 182 | 74 | 183 | 111 | 198 | 148 | 184 | 185 | 235 | 222 | 199 |
| 1 | 0 | 38 | 120 | 75 | 173 | 112 | 208 | 149 | 87 | 186 | 230 | 223 | 242 |
| 2 | 1 | 39 | 247 | 76 | 121 | 113 | 77 | 150 | 174 | 187 | 24 | 224 | 209 |
| 3 | 16 | 40 | 35 | 77 | 227 | 114 | 158 | 151 | 113 | 188 | 63 | 225 | 167 |
| 4 | 2 | 41 | 38 | 78 | 248 | 115 | 71 | 152 | 122 | 189 | 118 | 226 | 78 |
| 5 | 32 | 42 | 154 | 79 | 94 | 116 | 233 | 153 | 29 | 190 | 152 | 227 | 105 |
| 6 | 17 | 43 | 161 | 80 | 36 | 117 | 116 | 154 | 228 | 191 | 140 | 228 | 159 |
| 7 | 204 | 44 | 217 | 81 | 250 | 118 | 212 | 155 | 150 | 192 | 22 | 229 | 59 |
| 8 | 3 | 45 | 252 | 82 | 39 | 119 | 13 | 156 | 249 | 193 | 138 | 230 | 72 |
| 9 | 220 | 46 | 142 | 83 | 180 | 120 | 51 | 157 | 179 | 194 | 45 | 231 | 245 |
| 10 | 33 | 47 | 61 | 84 | 155 | 121 | 68 | 158 | 95 | 195 | 201 | 232 | 234 |
| 11 | 215 | 48 | 20 | 85 | 96 | 122 | 99 | 159 | 132 | 196 | 166 | 233 | 23 |
| 12 | 18 | 49 | 164 | 86 | 162 | 123 | 54 | 160 | 37 | 197 | 104 | 234 | 117 |
| 13 | 125 | 50 | 146 | 87 | 133 | 124 | 27 | 161 | 160 | 198 | 58 | 235 | 139 |
| 14 | 205 | 51 | 80 | 88 | 218 | 125 | 177 | 162 | 251 | 199 | 244 | 236 | 213 |
| 15 | 48 | 52 | 127 | 89 | 123 | 126 | 170 | 163 | 60 | 200 | 148 | 237 | 46 |
| 16 | 4 | 53 | 135 | 90 | 253 | 127 | 85 | 164 | 40 | 201 | 130 | 238 | 14 |
| 17 | 64 | 54 | 237 | 91 | 30 | 128 | 7 | 165 | 73 | 202 | 91 | 239 | 202 |
| 18 | 221 | 55 | 107 | 92 | 143 | 129 | 101 | 166 | 181 | 203 | 111 | 240 | 52 |
| 19 | 119 | 56 | 207 | 93 | 229 | 130 | 186 | 167 | 246 | 204 | 82 | 241 | 83 |
| 20 | 34 | 57 | 157 | 94 | 62 | 131 | 197 | 168 | 156 | 205 | 10 | 242 | 69 |
| 21 | 153 | 58 | 232 | 95 | 151 | 132 | 43 | 169 | 210 | 206 | 195 | 243 | 11 |
| 22 | 216 | 59 | 211 | 96 | 21 | 133 | 56 | 170 | 97 | 207 | 191 | 244 | 100 |
| 23 | 141 | 60 | 50 | 97 | 44 | 134 | 89 | 171 | 168 | 208 | 129 | 245 | 196 |
| 24 | 19 | 61 | 98 | 98 | 165 | 135 | 193 | 172 | 163 | 209 | 110 | 246 | 55 |
| 25 | 145 | 62 | 26 | 99 | 57 | 136 | 67 | 173 | 79 | 210 | 9 | 247 | 192 |
| 26 | 126 | 63 | 169 | 100 | 147 | 137 | 53 | 174 | 134 | 211 | 190 | 248 | 28 |
| 27 | 236 | 64 | 6 | 101 | 90 | 138 | 176 | 175 | 106 | 212 | 137 | 249 | 149 |
| 28 | 206 | 65 | 185 | 102 | 81 | 139 | 84 | 176 | 219 | 213 | 200 | 250 | 178 |
| 29 | 231 | 66 | 42 | 103 | 194 | 140 | 76 | 177 | 214 | 214 | 103 | 251 | 131 |
| 30 | 49 | 67 | 88 | 104 | 128 | 141 | 70 | 178 | 124 | 215 | 243 | 252 | 171 |
| 31 | 25 | 68 | 66 | 105 | 8 | 142 | 115 | 179 | 47 | 216 | 239 | 253 | 92 |
| 32 | 5 | 69 | 175 | 106 | 136 | 143 | 12 | 180 | 254 | 217 | 240 | 254 | 86 |
| 33 | 41 | 70 | 75 | 107 | 102 | 144 | 224 | 181 | 15 | 218 | 188 | 255 | 112 |
| 34 | 65 | 71 | 114 | 108 | 238 | 145 | 172 | 182 | 31 | 219 | 241 | | |
| 35 | 74 | 72 | 223 | 109 | 187 | 146 | 226 | 183 | 203 | 220 | 109 | | |
| 36 | 222 | 73 | 225 | 110 | 108 | 147 | 93 | 184 | 144 | 221 | 189 | | |

Anti-logarithm table for $\mathrm{GF}(256)$ with primitive, irreducible polynomial $369~(0\mathrm{x}171)$

by Cody Planteen; https://codyplanteen.com/notes/rs; June 24, 2019

 $F(x) = x^8 + x^6 + x^5 + x^4 + 1, \, \alpha = x + 0 = \text{ 2 = 0x02}$

| \overline{j} | α^{j} | j | α^j | j | α^{j} | j | α^j | j | α^j | j | α^{j} | j | α^{j} |
|----------------|--------------|----|------------|-----|--------------|-----|------------|-----|------------|-----|--------------|-----|--------------|
| 0 | 1 | 37 | 36 | 74 | 165 | 111 | 85 | 148 | 124 | 185 | 60 | 222 | 86 |
| 1 | 2 | 38 | 72 | 75 | 59 | 112 | 170 | 149 | 248 | 186 | 120 | 223 | 172 |
| 2 | 4 | 39 | 144 | 76 | 118 | 113 | 37 | 150 | 129 | 187 | 240 | 224 | 41 |
| 3 | 8 | 40 | 81 | 77 | 236 | 114 | 74 | 151 | 115 | 188 | 145 | 225 | 82 |
| 4 | 16 | 41 | 162 | 78 | 169 | 115 | 148 | 152 | 230 | 189 | 83 | 226 | 164 |
| 5 | 32 | 42 | 53 | 79 | 35 | 116 | 89 | 153 | 189 | 190 | 166 | 227 | 57 |
| 6 | 64 | 43 | 106 | 80 | 70 | 117 | 178 | 154 | 11 | 191 | 61 | 228 | 114 |
| 7 | 128 | 44 | 212 | 81 | 140 | 118 | 21 | 155 | 22 | 192 | 122 | 229 | 228 |
| 8 | 113 | 45 | 217 | 82 | 105 | 119 | 42 | 156 | 44 | 193 | 244 | 230 | 185 |
| 9 | 226 | 46 | 195 | 83 | 210 | 120 | 84 | 157 | 88 | 194 | 153 | 231 | 3 |
| 10 | 181 | 47 | 247 | 84 | 213 | 121 | 168 | 158 | 176 | 195 | 67 | 232 | 6 |
| 11 | 27 | 48 | 159 | 85 | 219 | 122 | 33 | 159 | 17 | 196 | 134 | 233 | 12 |
| 12 | 54 | 49 | 79 | 86 | 199 | 123 | 66 | 160 | 34 | 197 | 125 | 234 | 24 |
| 13 | 108 | 50 | 158 | 87 | 255 | 124 | 132 | 161 | 68 | 198 | 250 | 235 | 48 |
| 14 | 216 | 51 | 77 | 88 | 143 | 125 | 121 | 162 | 136 | 199 | 133 | 236 | 96 |
| 15 | 193 | 52 | 154 | 89 | 111 | 126 | 242 | 163 | 97 | 200 | 123 | 237 | 192 |
| 16 | 243 | 53 | 69 | 90 | 222 | 127 | 149 | 164 | 194 | 201 | 246 | 238 | 241 |
| 17 | 151 | 54 | 138 | 91 | 205 | 128 | 91 | 165 | 245 | 202 | 157 | 239 | 147 |
| 18 | 95 | 55 | 101 | 92 | 235 | 129 | 182 | 166 | 155 | 203 | 75 | 240 | 87 |
| 19 | 190 | 56 | 202 | 93 | 167 | 130 | 29 | 167 | 71 | 204 | 150 | 241 | 174 |
| 20 | 13 | 57 | 229 | 94 | 63 | 131 | 58 | 168 | 142 | 205 | 93 | 242 | 45 |
| 21 | 26 | 58 | 187 | 95 | 126 | 132 | 116 | 169 | 109 | 206 | 186 | 243 | 90 |
| 22 | 52 | 59 | 7 | 96 | 252 | 133 | 232 | 170 | 218 | 207 | 5 | 244 | 180 |
| 23 | 104 | 60 | 14 | 97 | 137 | 134 | 161 | 171 | 197 | 208 | 10 | 245 | 25 |
| 24 | 208 | 61 | 28 | 98 | 99 | 135 | 51 | 172 | 251 | 209 | 20 | 246 | 50 |
| 25 | 209 | 62 | 56 | 99 | 198 | 136 | 102 | 173 | 135 | 210 | 40 | 247 | 100 |
| 26 | 211 | 63 | 112 | 100 | 253 | 137 | 204 | 174 | 127 | 211 | 80 | 248 | 200 |
| 27 | 215 | 64 | 224 | 101 | 139 | 138 | 233 | 175 | 254 | 212 | 160 | 249 | 225 |
| 28 | 223 | 65 | 177 | 102 | 103 | 139 | 163 | 176 | 141 | 213 | 49 | 250 | 179 |
| 29 | 207 | 66 | 19 | 103 | 206 | 140 | 55 | 177 | 107 | 214 | 98 | 251 | 23 |
| 30 | 239 | 67 | 38 | 104 | 237 | 141 | 110 | 178 | 214 | 215 | 196 | 252 | 46 |
| 31 | 175 | 68 | 76 | 105 | 171 | 142 | 220 | 179 | 221 | 216 | 249 | 253 | 92 |
| 32 | 47 | 69 | 152 | 106 | 39 | 143 | 201 | 180 | 203 | 217 | 131 | 254 | 184 |
| 33 | 94 | 70 | 65 | 107 | 78 | 144 | 227 | 181 | 231 | 218 | 119 | * | 0 |
| 34 | 188 | 71 | 130 | 108 | 156 | 145 | 183 | 182 | 191 | 219 | 238 | | |
| 35 | 9 | 72 | 117 | 109 | 73 | 146 | 31 | 183 | 15 | 220 | 173 | | |
| 36 | 18 | 73 | 234 | 110 | 146 | 147 | 62 | 184 | 30 | 221 | 43 | | |

Logarithm table for GF(256) with primitive, irreducible polynomial 369 (0x171)

by Cody Planteen; https://codyplanteen.com/notes/rs; June 24, 2019

$$F(x) = x^8 + x^6 + x^5 + x^4 + 1, \ \alpha = x + 0 = {\rm 2 = 0x02}$$

Example: $35 \cdot 36 = \alpha^{79} \alpha^{37} = \alpha^{116} = 89$

| α^{j} | j |
|--------------|-----|--------------|-----|--------------|-----|--------------|-----|--------------|-----|--------------|-----|--------------|-----|
| 0 | * | 37 | 113 | 74 | 114 | 111 | 89 | 148 | 115 | 185 | 230 | 222 | 90 |
| 1 | 0 | 38 | 67 | 75 | 203 | 112 | 63 | 149 | 127 | 186 | 206 | 223 | 28 |
| 2 | 1 | 39 | 106 | 76 | 68 | 113 | 8 | 150 | 204 | 187 | 58 | 224 | 64 |
| 3 | 231 | 40 | 210 | 77 | 51 | 114 | 228 | 151 | 17 | 188 | 34 | 225 | 249 |
| 4 | 2 | 41 | 224 | 78 | 107 | 115 | 151 | 152 | 69 | 189 | 153 | 226 | 9 |
| 5 | 207 | 42 | 119 | 79 | 49 | 116 | 132 | 153 | 194 | 190 | 19 | 227 | 144 |
| 6 | 232 | 43 | 221 | 80 | 211 | 117 | 72 | 154 | 52 | 191 | 182 | 228 | 229 |
| 7 | 59 | 44 | 156 | 81 | 40 | 118 | 76 | 155 | 166 | 192 | 237 | 229 | 57 |
| 8 | 3 | 45 | 242 | 82 | 225 | 119 | 218 | 156 | 108 | 193 | 15 | 230 | 152 |
| 9 | 35 | 46 | 252 | 83 | 189 | 120 | 186 | 157 | 202 | 194 | 164 | 231 | 181 |
| 10 | 208 | 47 | 32 | 84 | 120 | 121 | 125 | 158 | 50 | 195 | 46 | 232 | 133 |
| 11 | 154 | 48 | 235 | 85 | 111 | 122 | 192 | 159 | 48 | 196 | 215 | 233 | 138 |
| 12 | 233 | 49 | 213 | 86 | 222 | 123 | 200 | 160 | 212 | 197 | 171 | 234 | 73 |
| 13 | 20 | 50 | 246 | 87 | 240 | 124 | 148 | 161 | 134 | 198 | 99 | 235 | 92 |
| 14 | 60 | 51 | 135 | 88 | 157 | 125 | 197 | 162 | 41 | 199 | 86 | 236 | 77 |
| 15 | 183 | 52 | 22 | 89 | 116 | 126 | 95 | 163 | 139 | 200 | 248 | 237 | 104 |
| 16 | 4 | 53 | 42 | 90 | 243 | 127 | 174 | 164 | 226 | 201 | 143 | 238 | 219 |
| 17 | 159 | 54 | 12 | 91 | 128 | 128 | 7 | 165 | 74 | 202 | 56 | 239 | 30 |
| 18 | 36 | 55 | 140 | 92 | 253 | 129 | 150 | 166 | 190 | 203 | 180 | 240 | 187 |
| 19 | 66 | 56 | 62 | 93 | 205 | 130 | 71 | 167 | 93 | 204 | 137 | 241 | 238 |
| 20 | 209 | 57 | 227 | 94 | 33 | 131 | 217 | 168 | 121 | 205 | 91 | 242 | 126 |
| 21 | 118 | 58 | 131 | 95 | 18 | 132 | 124 | 169 | 78 | 206 | 103 | 243 | 16 |
| 22 | 155 | 59 | 75 | 96 | 236 | 133 | 199 | 170 | 112 | 207 | 29 | 244 | 193 |
| 23 | 251 | 60 | 185 | 97 | 163 | 134 | 196 | 171 | 105 | 208 | 24 | 245 | 165 |
| 24 | 234 | 61 | 191 | 98 | 214 | 135 | 173 | 172 | 223 | 209 | 25 | 246 | 201 |
| 25 | 245 | 62 | 147 | 99 | 98 | 136 | 162 | 173 | 220 | 210 | 83 | 247 | 47 |
| 26 | 21 | 63 | 94 | 100 | 247 | 137 | 97 | 174 | 241 | 211 | 26 | 248 | 149 |
| 27 | 11 | 64 | 6 | 101 | 55 | 138 | 54 | 175 | 31 | 212 | 44 | 249 | 216 |
| 28 | 61 | 65 | 70 | 102 | 136 | 139 | 101 | 176 | 158 | 213 | 84 | 250 | 198 |
| 29 | 130 | 66 | 123 | 103 | 102 | 140 | 81 | 177 | 65 | 214 | 178 | 251 | 172 |
| 30 | 184 | 67 | 195 | 104 | 23 | 141 | 176 | 178 | 117 | 215 | 27 | 252 | 96 |
| 31 | 146 | 68 | 161 | 105 | 82 | 142 | 168 | 179 | 250 | 216 | 14 | 253 | 100 |
| 32 | 5 | 69 | 53 | 106 | 43 | 143 | 88 | 180 | 244 | 217 | 45 | 254 | 175 |
| 33 | 122 | 70 | 80 | 107 | 177 | 144 | 39 | 181 | 10 | 218 | 170 | 255 | 87 |
| 34 | 160 | 71 | 167 | 108 | 13 | 145 | 188 | 182 | 129 | 219 | 85 | | |
| 35 | 79 | 72 | 38 | 109 | 169 | 146 | 110 | 183 | 145 | 220 | 142 | | |
| 36 | 37 | 73 | 109 | 110 | 141 | 147 | 239 | 184 | 254 | 221 | 179 | | |

Anti-logarithm table for $\mathrm{GF}(256)$ with irreducible polynomial 375 (0x177)

by Cody Planteen; https://codyplanteen.com/notes/rs; June 24, 2019

 $F(x) = x^8 + x^6 + x^5 + x^4 + x^2 + x + 1, \ \alpha = x + 1 = \text{3 = 0x03}$

| \overline{j} | α^{j} | j | α^{j} | j | α^{j} | \overline{j} | α^{j} | \overline{j} | α^{j} | \overline{j} | α^{j} | j | α^j |
|----------------|--------------|----|--------------|-----|--------------|----------------|--------------|----------------|--------------|----------------|--------------|-----|------------|
| 0 | 1 | 37 | 54 | 74 | 200 | 111 | 64 | 148 | 3 125 | 185 | 40 | 222 | 66 |
| 1 | 3 | 38 | 90 | 75 | 47 | 112 | 192 | 149 | | 186 | 120 | 223 | 198 |
| 2 | 5 | 39 | 238 | 76 | 113 | 113 | 55 | 150 | 254 | 187 | 136 | 224 | 61 |
| 3 | 15 | 40 | 69 | 77 | 147 | 114 | 89 | 151 | 117 | 188 | 239 | 225 | 71 |
| 4 | 17 | 41 | 207 | 78 | 194 | 115 | 235 | 152 | 2 159 | 189 | 70 | 226 | 201 |
| 5 | 51 | 42 | 38 | 79 | 49 | 116 | 74 | 153 | 3 214 | 190 | 202 | 227 | 44 |
| 6 | 85 | 43 | 106 | 80 | 83 | 117 | 222 | 154 | 13 | 191 | 41 | 228 | 116 |
| 7 | 255 | 44 | 190 | 81 | 245 | 118 | 21 | 155 | 5 23 | 192 | 123 | 229 | 156 |
| 8 | 118 | 45 | 181 | 82 | 104 | 119 | 63 | 156 | | 193 | 141 | 230 | 211 |
| 9 | 154 | 46 | 168 | 83 | 184 | 120 | 65 | 157 | | 194 | 224 | 231 | 2 |
| 10 | 217 | 47 | 143 | 84 | 191 | 121 | 195 | 158 | | 195 | 87 | 232 | 6 |
| 11 | 28 | 48 | 230 | 85 | 182 | 122 | 50 | 159 | | 196 | 249 | 233 | 10 |
| 12 | 36 | 49 | 93 | 86 | 173 | 123 | 86 | 160 | | 197 | 124 | 234 | 30 |
| 13 | 108 | 50 | 231 | 87 | 128 | 124 | 250 | 161 | | 198 | 132 | 235 | 34 |
| 14 | 180 | 51 | 94 | 88 | 247 | 125 | 121 | 162 | | 199 | 251 | 236 | 102 |
| 15 | 171 | 52 | 226 | 89 | 110 | 126 | 139 | 163 | 3 103 | 200 | 122 | 237 | 170 |
| 16 | 138 | 53 | 81 | 90 | 178 | 127 | 234 | 164 | | 201 | 142 | 238 | 137 |
| 17 | 233 | 54 | 243 | 91 | 161 | 128 | 73 | 165 | | 202 | 229 | 239 | 236 |
| 18 | 76 | 55 | 98 | 92 | 148 | 129 | 219 | 166 | | 203 | 88 | 240 | 67 |
| 19 | 212 | 56 | 166 | 93 | 203 | 130 | 26 | 167 | | 204 | 232 | 241 | 197 |
| 20 | 11 | 57 | 157 | 94 | 42 | 131 | 46 | 168 | | 205 | 79 | 242 | 56 |
| 21 | 29 | 58 | 208 | 95 | 126 | 132 | 114 | 169 | | 206 | 209 | 243 | 72 |
| 22 | 39 | 59 | 7 | 96 | 130 | 133 | 150 | 170 | | 207 | 4 | 244 | 216 |
| 23 | 105 | 60 | 9 | 97 | 241 | 134 | 205 | 171 | | 208 | 12 | 245 | 31 |
| 24 | 187 | 61 | 27 | 98 | 100 | 135 | 32 | 172 | | 209 | 20 | 246 | 33 |
| 25 | 186 | 62 | 45 | 99 | 172 | 136 | 96 | 173 | | 210 | 60 | 247 | 99 |
| 26 | 185 | 63 | 119 | 100 | 131 | 137 | 160 | 174 | | 211 | 68 | 248 | 165 |
| 27 | 188 | 64 | 153 | 101 | 242 | 138 | 151 | 175 | | 212 | 204 | 249 | 152 |
| 28 | 179 | 65 | 220 | 102 | 97 | 139 | 206 | 176 | | 213 | 35 | 250 | 223 |
| 29 | 162 | 66 | 19 | 103 | 163 | 140 | 37 | 177 | | 214 | 101 | 251 | 22 |
| 30 | 145 | 67 | 53 | 104 | 146 | 141 | 111 | 178 | | 215 | 175 | 252 | 58 |
| 31 | 196 | 68 | 95 | 105 | 193 | 142 | 177 | 179 | | 216 | 134 | 253 | 78 |
| 32 | 59 | 69 | 225 | 106 | 52 | 143 | 164 | 180 | | 217 | 253 | 254 | 210 |
| 33 | 77 | 70 | 84 | 107 | 92 | 144 | 155 | 181 | | 218 | 112 | * | 0 |
| 34 | 215 | 71 | 252 | 108 | 228 | 145 | 218 | 182 | | 219 | 144 | | |
| 35 | 14 | 72 | 115 | 109 | 91 | 146 | 25 | 183 | | 220 | 199 | | |
| 36 | 18 | 73 | 149 | 110 | 237 | 147 | 43 | 184 | 1 24 | 221 | 62 | | |

Logarithm table for GF(256) with irreducible polynomial 375 (0x177)

by Cody Planteen; https://codyplanteen.com/notes/rs; June 24, 2019

$$F(x) = x^8 + x^6 + x^5 + x^4 + x^2 + x + 1, \ \alpha = x + 1 = 3 = 0$$
x03

Example: $35 \cdot 36 = \alpha^{213} \alpha^{12} = \alpha^{225} = 71$

| $\overline{\alpha^j}$ | j | α^{j} | j |
|-----------------------|-----|--------------|-----|--------------|-----|--------------|-----|--------------|-----|--------------|-----|--------------|-----|
| 0 | * | 37 | 140 | 74 | 116 | 111 | 141 | 148 | 92 | 185 | 26 | 222 | 117 |
| 1 | 0 | 38 | 42 | 75 | 157 | 112 | 218 | 149 | 73 | 186 | 25 | 223 | 250 |
| 2 | 231 | 39 | 22 | 76 | 18 | 113 | 76 | 150 | 133 | 187 | 24 | 224 | 194 |
| 3 | 1 | 40 | 185 | 77 | 33 | 114 | 132 | 151 | 138 | 188 | 27 | 225 | 69 |
| 4 | 207 | 41 | 191 | 78 | 253 | 115 | 72 | 152 | 249 | 189 | 178 | 226 | 52 |
| 5 | 2 | 42 | 94 | 79 | 205 | 116 | 228 | 153 | 64 | 190 | 44 | 227 | 166 |
| 6 | 232 | 43 | 147 | 80 | 161 | 117 | 151 | 154 | | 191 | 84 | 228 | 108 |
| 7 | 59 | 44 | 227 | 81 | 53 | 118 | 8 | 155 | 144 | 192 | 112 | 229 | 202 |
| 8 | 183 | 45 | 62 | 82 | 167 | 119 | 63 | 156 | 229 | 193 | 105 | 230 | 48 |
| 9 | 60 | 46 | 131 | 83 | 80 | 120 | 186 | 157 | 57 | 194 | 78 | 231 | 50 |
| 10 | 233 | 47 | 75 | 84 | 70 | 121 | 125 | 158 | 181 | 195 | 121 | 232 | 204 |
| 11 | 20 | 48 | 160 | 85 | 6 | 122 | 200 | 159 | 152 | 196 | 31 | 233 | 17 |
| 12 | 208 | 49 | 79 | 86 | 123 | 123 | 192 | 160 | 137 | 197 | 241 | 234 | 127 |
| 13 | 154 | 50 | 122 | 87 | 195 | 124 | 197 | 161 | 91 | 198 | 223 | 235 | 115 |
| 14 | 35 | 51 | 5 | 88 | 203 | 125 | 148 | 162 | 29 | 199 | 220 | 236 | 239 |
| 15 | 3 | 52 | 106 | 89 | 114 | 126 | 95 | 163 | 103 | 200 | 74 | 237 | 110 |
| 16 | 159 | 53 | 67 | 90 | 38 | 127 | 174 | 164 | | 201 | 226 | 238 | 39 |
| 17 | 4 | 54 | 37 | 91 | 109 | 128 | 87 | 165 | 248 | 202 | 190 | 239 | 188 |
| 18 | 36 | 55 | 113 | 92 | 107 | 129 | 175 | 166 | 56 | 203 | 93 | 240 | 162 |
| 19 | 66 | 56 | 242 | 93 | 49 | 130 | 96 | 167 | 180 | 204 | 212 | 241 | 97 |
| 20 | 209 | 57 | 156 | 94 | 51 | 131 | 100 | 168 | 46 | 205 | 134 | 242 | 101 |
| 21 | 118 | 58 | 252 | 95 | 68 | 132 | 198 | 169 | 164 | 206 | 139 | 243 | 54 |
| 22 | 251 | 59 | 32 | 96 | 136 | 133 | 172 | 170 | 237 | 207 | 41 | 244 | 176 |
| 23 | 155 | 60 | 210 | 97 | 102 | 134 | 216 | 171 | 15 | 208 | 58 | 245 | 81 |
| 24 | 184 | 61 | 224 | 98 | 55 | 135 | 149 | 172 | 99 | 209 | 206 | 246 | 168 |
| 25 | 146 | 62 | 221 | 99 | 247 | 136 | 187 | 173 | 86 | 210 | 254 | 247 | 88 |
| 26 | 130 | 63 | 119 | 100 | 98 | 137 | 238 | 174 | | 211 | 230 | 248 | 173 |
| 27 | 61 | 64 | 111 | 101 | 214 | 138 | 16 | 175 | 215 | 212 | 19 | 249 | 196 |
| 28 | 11 | 65 | 120 | 102 | 236 | 139 | 126 | 176 | 179 | 213 | 182 | 250 | 124 |
| 29 | 21 | 66 | 222 | 103 | 163 | 140 | 165 | 177 | 142 | 214 | 153 | 251 | 199 |
| 30 | 234 | 67 | 240 | 104 | 82 | 141 | 193 | 178 | 90 | 215 | 34 | 252 | 71 |
| 31 | 245 | 68 | 211 | 105 | 23 | 142 | 201 | 179 | 28 | 216 | 244 | 253 | 217 |
| 32 | 135 | 69 | 40 | 106 | 43 | 143 | 47 | 180 | 14 | 217 | 10 | 254 | 150 |
| 33 | 246 | 70 | 189 | 107 | 177 | 144 | 219 | 181 | 45 | 218 | 145 | 255 | 7 |
| 34 | 235 | 71 | 225 | 108 | 13 | 145 | 30 | 182 | 85 | 219 | 129 | | |
| 35 | 213 | 72 | 243 | 109 | 169 | 146 | 104 | 183 | 170 | 220 | 65 | | |
| 36 | 12 | 73 | 128 | 110 | 89 | 147 | 77 | 184 | 83 | 221 | 158 | | |

Anti-logarithm table for GF(256) with irreducible polynomial 379 (0x17B)

by Cody Planteen; https://codyplanteen.com/notes/rs; June 24, 2019 $F(x)=x^8+x^6+x^5+x^4+x^3+x+1,\,\alpha=x^3+x+1$ = 11 = 0x0B

| j | α^j | j | α^j | j | α^j | j | α^j | j | α^j | j | α^j | j | α^j |
|----|------------|----|------------|-----|------------|-----|------------|-----|------------|-----|------------|-----|------------|
| 0 | 1 | 37 | 88 | 74 | 145 | 111 | 217 | 148 | 36 | 185 | 195 | 222 | 206 |
| 1 | 11 | 38 | 222 | 75 | 215 | 112 | 185 | 149 | 55 | 186 | 71 | 223 | 56 |
| 2 | 69 | 39 | 136 | 76 | 219 | 113 | 148 | 150 | 154 | 187 | 7 | 224 | 243 |
| 3 | 17 | 40 | 52 | 77 | 175 | 114 | 240 | 151 | 146 | 188 | 49 | 225 | 236 |
| 4 | 187 | 41 | 135 | 78 | 30 | 115 | 241 | 152 | 202 | 189 | 160 | 226 | 53 |
| 5 | 130 | 42 | 93 | 79 | 210 | 116 | 250 | 153 | 20 | 190 | 119 | 227 | 140 |
| 6 | 122 | 43 | 249 | 80 | 252 | 117 | 191 | 154 | 156 | 191 | 172 | 228 | 24 |
| 7 | 211 | 44 | 162 | 81 | 133 | 118 | 174 | 155 | 168 | 192 | 3 | 229 | 232 |
| 8 | 247 | 45 | 97 | 82 | 75 | 119 | 21 | 156 | 47 | 193 | 29 | 230 | 25 |
| 9 | 192 | 46 | 38 | 83 | 115 | 120 | 151 | 157 | 114 | 194 | 207 | 231 | 227 |
| 10 | 90 | 47 | 33 | 84 | 128 | 121 | 237 | 158 | 139 | 195 | 51 | 232 | 92 |
| 11 | 200 | 48 | 16 | 85 | 108 | 122 | 62 | 159 | 41 | 196 | 182 | 233 | 242 |
| 12 | 2 | 49 | 176 | 86 | 89 | 123 | 201 | 160 | 72 | 197 | 253 | 234 | 231 |
| 13 | 22 | 50 | 199 | 87 | 213 | 124 | 9 | 161 | 110 | 198 | 142 | 235 | 112 |
| 14 | 138 | 51 | 107 | 88 | 205 | 125 | 83 | 162 | 79 | 199 | 14 | 236 | 157 |
| 15 | 34 | 52 | 104 | 89 | 37 | 126 | 155 | 163 | 95 | 200 | 98 | 237 | 163 |
| 16 | 13 | 53 | 117 | 90 | 60 | 127 | 153 | 164 | 239 | 201 | 59 | 238 | 106 |
| 17 | 127 | 54 | 186 | 91 | 223 | 128 | 143 | 165 | 40 | 202 | 238 | 239 | 99 |
| 18 | 244 | 55 | 137 | 92 | 131 | 129 | 5 | 166 | 67 | 203 | 35 | 240 | 48 |
| 19 | 221 | 56 | 63 | 93 | 113 | 130 | 39 | 167 | 43 | 204 | 6 | 241 | 171 |
| 20 | 149 | 57 | 194 | 94 | 150 | 131 | 42 | 168 | 94 | 205 | 58 | 242 | 50 |
| 21 | 251 | 58 | 76 | 95 | 230 | 132 | 85 | 169 | 228 | 206 | 229 | 243 | 189 |
| 22 | 180 | 59 | 66 | 96 | 123 | 133 | 161 | 170 | 109 | 207 | 102 | 244 | 184 |
| 23 | 235 | 60 | 32 | 97 | 216 | 134 | 124 | 171 | 82 | 208 | 23 | 245 | 159 |
| 24 | 4 | 61 | 27 | 98 | 178 | 135 | 233 | 172 | 144 | 209 | 129 | 246 | 181 |
| 25 | 44 | 62 | 245 | 99 | 209 | 136 | 18 | 173 | 220 | 210 | 103 | 247 | 224 |
| 26 | 111 | 63 | 214 | 100 | 225 | 137 | 166 | 174 | 158 | 211 | 28 | 248 | 65 |
| 27 | 68 | 64 | 208 | 101 | 74 | 138 | 77 | 175 | 190 | 212 | 196 | 249 | 61 |
| 28 | 26 | 65 | 234 | 102 | 120 | 139 | 73 | 176 | 165 | 213 | 118 | 250 | 212 |
| 29 | 254 | 66 | 15 | 103 | 197 | 140 | 101 | 177 | 80 | 214 | 167 | 251 | 198 |
| 30 | 147 | 67 | 105 | 104 | 125 | 141 | 10 | 178 | 134 | 215 | 70 | 252 | 96 |
| 31 | 193 | 68 | 126 | 105 | 226 | 142 | 78 | 179 | 86 | 216 | 12 | 253 | 45 |
| 32 | 81 | 69 | 255 | 106 | 87 | 143 | 84 | 180 | 188 | 217 | 116 | 254 | 100 |
| 33 | 141 | 70 | 152 | 107 | 183 | 144 | 170 | 181 | 179 | 218 | 177 | * | 0 |
| 34 | 19 | 71 | 132 | 108 | 246 | 145 | 57 | 182 | 218 | 219 | 204 | | |
| 35 | 173 | 72 | 64 | 109 | 203 | 146 | 248 | 183 | 164 | 220 | 46 | | |
| 36 | 8 | 73 | 54 | 110 | 31 | 147 | 169 | 184 | 91 | 221 | 121 | | |

Logarithm table for GF(256) with irreducible polynomial 379 (0x17B)

by Cody Planteen; https://codyplanteen.com/notes/rs; June 24, 2019

$$F(x) = x^8 + x^6 + x^5 + x^4 + x^3 + x + 1, \ \alpha = x^3 + x + 1 = \text{ 11 = 0x0B}$$

Example: $35 \cdot 36 = \alpha^{203} \alpha^{148} = \alpha^{351} = \alpha^{351 \mod 255} = \alpha^{96} = 123$

| $\frac{\alpha^j}{}$ | j | α^{j} | j |
|---------------------|-----|--------------|-----|--------------|-----|--------------|-----|--------------|-----|--------------|-----|--------------|-----|
| 0 | * | 37 | 89 | 74 | 101 | 111 | 26 | 148 | 113 | 185 | 112 | 222 | 38 |
| 1 | 0 | 38 | 46 | 75 | 82 | 112 | 235 | 149 | 20 | 186 | 54 | 223 | 91 |
| 2 | 12 | 39 | 130 | 76 | 58 | 113 | 93 | 150 | 94 | 187 | 4 | 224 | 247 |
| 3 | 192 | 40 | 165 | 77 | 138 | 114 | 157 | 151 | 120 | 188 | 180 | 225 | 100 |
| 4 | 24 | 41 | 159 | 78 | 142 | 115 | 83 | 152 | 70 | 189 | 243 | 226 | 105 |
| 5 | 129 | 42 | 131 | 79 | 162 | 116 | 217 | 153 | 127 | 190 | 175 | 227 | 231 |
| 6 | 204 | 43 | 167 | 80 | 177 | 117 | 53 | 154 | 150 | 191 | 117 | 228 | 169 |
| 7 | 187 | 44 | 25 | 81 | 32 | 118 | 213 | 155 | 126 | 192 | 9 | 229 | 206 |
| 8 | 36 | 45 | 253 | 82 | 171 | 119 | 190 | 156 | 154 | 193 | 31 | 230 | 95 |
| 9 | 124 | 46 | 220 | 83 | 125 | 120 | 102 | 157 | 236 | 194 | 57 | 231 | 234 |
| 10 | 141 | 47 | 156 | 84 | 143 | 121 | 221 | 158 | 174 | 195 | 185 | 232 | 229 |
| 11 | 1 | 48 | 240 | 85 | 132 | 122 | 6 | 159 | 245 | 196 | 212 | 233 | 135 |
| 12 | 216 | 49 | 188 | 86 | 179 | 123 | 96 | 160 | 189 | 197 | 103 | 234 | 65 |
| 13 | 16 | 50 | 242 | 87 | 106 | 124 | 134 | 161 | 133 | 198 | 251 | 235 | 23 |
| 14 | 199 | 51 | 195 | 88 | 37 | 125 | 104 | 162 | 44 | 199 | 50 | 236 | 225 |
| 15 | 66 | 52 | 40 | 89 | 86 | 126 | 68 | 163 | 237 | 200 | 11 | 237 | 121 |
| 16 | 48 | 53 | 226 | 90 | 10 | 127 | 17 | 164 | 183 | 201 | 123 | 238 | 202 |
| 17 | 3 | 54 | 73 | 91 | 184 | 128 | 84 | 165 | 176 | 202 | 152 | 239 | 164 |
| 18 | 136 | 55 | 149 | 92 | 232 | 129 | 209 | 166 | 137 | 203 | 109 | 240 | 114 |
| 19 | 34 | 56 | 223 | 93 | 42 | 130 | 5 | 167 | 214 | 204 | 219 | 241 | 115 |
| 20 | 153 | 57 | 145 | 94 | 168 | 131 | 92 | 168 | 155 | 205 | 88 | 242 | 233 |
| 21 | 119 | 58 | 205 | 95 | 163 | 132 | 71 | 169 | 147 | 206 | 222 | 243 | 224 |
| 22 | 13 | 59 | 201 | 96 | 252 | 133 | 81 | 170 | 144 | 207 | 194 | 244 | 18 |
| 23 | 208 | 60 | 90 | 97 | 45 | 134 | 178 | 171 | 241 | 208 | 64 | 245 | 62 |
| 24 | 228 | 61 | 249 | 98 | 200 | 135 | 41 | 172 | 191 | 209 | 99 | 246 | 108 |
| 25 | 230 | 62 | 122 | 99 | 239 | 136 | 39 | 173 | 35 | 210 | 79 | 247 | 8 |
| 26 | 28 | 63 | 56 | 100 | 254 | 137 | 55 | 174 | 118 | 211 | 7 | 248 | 146 |
| 27 | 61 | 64 | 72 | 101 | 140 | 138 | 14 | 175 | 77 | 212 | 250 | 249 | 43 |
| 28 | 211 | 65 | 248 | 102 | 207 | 139 | 158 | 176 | 49 | 213 | 87 | 250 | 116 |
| 29 | 193 | 66 | 59 | 103 | 210 | 140 | 227 | 177 | 218 | 214 | 63 | 251 | 21 |
| 30 | 78 | 67 | 166 | 104 | 52 | 141 | 33 | 178 | 98 | 215 | 75 | 252 | 80 |
| 31 | 110 | 68 | 27 | 105 | 67 | 142 | 198 | 179 | 181 | 216 | 97 | 253 | 197 |
| 32 | 60 | 69 | 2 | 106 | 238 | 143 | 128 | 180 | 22 | 217 | 111 | 254 | 29 |
| 33 | 47 | 70 | 215 | 107 | 51 | 144 | 172 | 181 | 246 | 218 | 182 | 255 | 69 |
| 34 | 15 | 71 | 186 | 108 | 85 | 145 | 74 | 182 | 196 | 219 | 76 | | |
| 35 | 203 | 72 | 160 | 109 | 170 | 146 | 151 | 183 | 107 | 220 | 173 | | |
| 36 | 148 | 73 | 139 | 110 | 161 | 147 | 30 | 184 | 244 | 221 | 19 | | |

Anti-logarithm table for $\mathrm{GF}(256)$ with primitive, irreducible polynomial 391 (0x187)

by Cody Planteen; https://codyplanteen.com/notes/rs; June 24, 2019

 $F(x) = x^8 + x^7 + x^2 + x + 1, \, \alpha = x + 0 = {\rm 2 = 0x02}$

| \overline{j} | α^j | j | α^j | j | α^{j} | j | α^{j} | j | α^j | j | α^j | j | α^j |
|----------------|------------|----|------------|-----|--------------|-----|--------------|-----|------------|-----|------------|-----|------------|
| 0 | 1 | 37 | 174 | 74 | 187 | 111 | 224 | 148 | 45 | 185 | 242 | 222 | 50 |
| 1 | 2 | 38 | 219 | 75 | 241 | 112 | 71 | 149 | 90 | 186 | 99 | 223 | 100 |
| 2 | 4 | 39 | 49 | 76 | 101 | 113 | 142 | 150 | 180 | 187 | 198 | 224 | 200 |
| 3 | 8 | 40 | 98 | 77 | 202 | 114 | 155 | 151 | | 188 | 11 | 225 | 23 |
| 4 | 16 | 41 | 196 | 78 | 19 | 115 | 177 | 152 | 89 | 189 | 22 | 226 | 46 |
| 5 | 32 | 42 | 15 | 79 | 38 | 116 | 229 | 153 | 178 | 190 | 44 | 227 | 92 |
| 6 | 64 | 43 | 30 | 80 | 76 | 117 | 77 | 154 | 227 | 191 | 88 | 228 | 184 |
| 7 | 128 | 44 | 60 | 81 | 152 | 118 | 154 | 155 | 65 | 192 | 176 | 229 | 247 |
| 8 | 135 | 45 | 120 | 82 | 183 | 119 | 179 | 156 | 130 | 193 | 231 | 230 | 105 |
| 9 | 137 | 46 | 240 | 83 | 233 | 120 | 225 | 157 | | 194 | 73 | 231 | 210 |
| 10 | 149 | 47 | 103 | 84 | 85 | 121 | 69 | 158 | | 195 | 146 | 232 | 35 |
| 11 | 173 | 48 | 206 | 85 | 170 | 122 | 138 | 159 | | 196 | 163 | 233 | 70 |
| 12 | 221 | 49 | 27 | 86 | 211 | 123 | 147 | 160 | 141 | 197 | 193 | 234 | 140 |
| 13 | 61 | 50 | 54 | 87 | 33 | 124 | 161 | 161 | | 198 | 5 | 235 | 159 |
| 14 | 122 | 51 | 108 | 88 | 66 | 125 | 197 | 162 | 189 | 199 | 10 | 236 | 185 |
| 15 | 244 | 52 | 216 | 89 | 132 | 126 | 13 | 163 | 253 | 200 | 20 | 237 | 245 |
| 16 | 111 | 53 | 55 | 90 | 143 | 127 | 26 | 164 | 125 | 201 | 40 | 238 | 109 |
| 17 | 222 | 54 | 110 | 91 | 153 | 128 | 52 | 165 | 250 | 202 | 80 | 239 | 218 |
| 18 | 59 | 55 | 220 | 92 | 181 | 129 | 104 | 166 | 115 | 203 | 160 | 240 | 51 |
| 19 | 118 | 56 | 63 | 93 | 237 | 130 | 208 | 167 | 230 | 204 | 199 | 241 | 102 |
| 20 | 236 | 57 | 126 | 94 | 93 | 131 | 39 | 168 | 75 | 205 | 9 | 242 | 204 |
| 21 | 95 | 58 | 252 | 95 | 186 | 132 | 78 | 169 | 150 | 206 | 18 | 243 | 31 |
| 22 | 190 | 59 | 127 | 96 | 243 | 133 | 156 | 170 | 171 | 207 | 36 | 244 | 62 |
| 23 | 251 | 60 | 254 | 97 | 97 | 134 | 191 | 171 | 209 | 208 | 72 | 245 | 124 |
| 24 | 113 | 61 | 123 | 98 | 194 | 135 | 249 | 172 | 37 | 209 | 144 | 246 | 248 |
| 25 | 226 | 62 | 246 | 99 | 3 | 136 | 117 | 173 | | 210 | 167 | 247 | 119 |
| 26 | 67 | 63 | 107 | 100 | 6 | 137 | 234 | 174 | 148 | 211 | 201 | 248 | 238 |
| 27 | 134 | 64 | 214 | 101 | 12 | 138 | 83 | 175 | 175 | 212 | 21 | 249 | 91 |
| 28 | 139 | 65 | 43 | 102 | 24 | 139 | 166 | 176 | 217 | 213 | 42 | 250 | 182 |
| 29 | 145 | 66 | 86 | 103 | 48 | 140 | 203 | 177 | 53 | 214 | 84 | 251 | 235 |
| 30 | 165 | 67 | 172 | 104 | 96 | 141 | 17 | 178 | 106 | 215 | 168 | 252 | 81 |
| 31 | 205 | 68 | 223 | 105 | 192 | 142 | 34 | 179 | 212 | 216 | 215 | 253 | 162 |
| 32 | 29 | 69 | 57 | 106 | 7 | 143 | 68 | 180 | 47 | 217 | 41 | 254 | 195 |
| 33 | 58 | 70 | 114 | 107 | 14 | 144 | 136 | 181 | | 218 | 82 | * | 0 |
| 34 | 116 | 71 | 228 | 108 | 28 | 145 | 151 | 182 | 188 | 219 | 164 | | |
| 35 | 232 | 72 | 79 | 109 | 56 | 146 | 169 | 183 | | 220 | 207 | | |
| 36 | 87 | 73 | 158 | 110 | 112 | 147 | 213 | 184 | | 221 | 25 | | |

Logarithm table for GF(256) with primitive, irreducible polynomial 391 (0x187)

by Cody Planteen; https://codyplanteen.com/notes/rs; June 24, 2019

$$F(x) = x^8 + x^7 + x^2 + x + 1, \, \alpha = x + 0 = {\rm 2 = 0x02}$$

Example: $35 \cdot 36 = \alpha^{232} \alpha^{207} = \alpha^{439} = \alpha^{439 \mod 255} = \alpha^{184} = 121$

| $\overline{\alpha^j}$ | j | α^{j} | j |
|-----------------------|-----|--------------|-----|--------------|-----|--------------|-----|--------------|-----|--------------|-----|--------------|-----|
| 0 | * | 37 | 172 | 74 | 173 | 111 | 16 | 148 | 174 | 185 | 236 | 222 | 17 |
| 1 | 0 | 38 | 79 | 75 | 168 | 112 | 110 | 149 | 10 | 186 | 95 | 223 | 68 |
| 2 | 1 | 39 | 131 | 76 | 80 | 113 | 24 | 150 | 169 | 187 | 74 | 224 | 111 |
| 3 | 99 | 40 | 201 | 77 | 117 | 114 | 70 | 151 | 145 | 188 | 182 | 225 | 120 |
| 4 | 2 | 41 | 217 | 78 | 132 | 115 | 166 | 152 | 81 | 189 | 162 | 226 | 25 |
| 5 | 198 | 42 | 213 | 79 | 72 | 116 | 34 | 153 | 91 | 190 | 22 | 227 | 154 |
| 6 | 100 | 43 | 65 | 80 | 202 | 117 | 136 | 154 | 118 | 191 | 134 | 228 | 71 |
| 7 | 106 | 44 | 190 | 81 | 252 | 118 | 19 | 155 | | 192 | 105 | 229 | 116 |
| 8 | 3 | 45 | 148 | 82 | 218 | 119 | 247 | 156 | 133 | 193 | 197 | 230 | 167 |
| 9 | 205 | 46 | 226 | 83 | 138 | 120 | 45 | 157 | | 194 | 98 | 231 | 193 |
| 10 | 199 | 47 | 180 | 84 | 214 | 121 | 184 | 158 | | 195 | 254 | 232 | 35 |
| 11 | 188 | 48 | 103 | 85 | 84 | 122 | 14 | 159 | | 196 | 41 | 233 | 83 |
| 12 | 101 | 49 | 39 | 86 | 66 | 123 | 61 | 160 | | 197 | 125 | 234 | 137 |
| 13 | 126 | 50 | 222 | 87 | 36 | 124 | 245 | 161 | | 198 | 187 | 235 | 251 |
| 14 | 107 | 51 | 240 | 88 | 191 | 125 | 164 | 162 | 253 | 199 | 204 | 236 | 20 |
| 15 | 42 | 52 | 128 | 89 | 152 | 126 | 57 | 163 | 196 | 200 | 224 | 237 | 93 |
| 16 | 4 | 53 | 177 | 90 | 149 | 127 | 59 | 164 | | 201 | 211 | 238 | 248 |
| 17 | 141 | 54 | 50 | 91 | 249 | 128 | 7 | 165 | 30 | 202 | 77 | 239 | 151 |
| 18 | 206 | 55 | 53 | 92 | 227 | 129 | 158 | 166 | | 203 | 140 | 240 | 46 |
| 19 | 78 | 56 | 109 | 93 | 94 | 130 | 156 | 167 | | 204 | 242 | 241 | 75 |
| 20 | 200 | 57 | 69 | 94 | 181 | 131 | 157 | 168 | | 205 | 31 | 242 | 185 |
| 21 | 212 | 58 | 33 | 95 | 21 | 132 | 89 | 169 | | 206 | 48 | 243 | 96 |
| 22 | 189 | 59 | 18 | 96 | 104 | 133 | 159 | 170 | | 207 | 220 | 244 | 15 |
| 23 | 225 | 60 | 44 | 97 | 97 | 134 | 27 | 171 | | 208 | 130 | 245 | 237 |
| 24 | 102 | 61 | 13 | 98 | 40 | 135 | 8 | 172 | | 209 | 171 | 246 | 62 |
| 25 | 221 | 62 | 244 | 99 | 186 | 136 | 144 | 173 | | 210 | 231 | 247 | 229 |
| 26 | 127 | 63 | 56 | 100 | 223 | 137 | 9 | 174 | | 211 | 86 | 248 | 246 |
| 27 | 49 | 64 | 6 | 101 | 76 | 138 | 122 | 175 | | 212 | 179 | 249 | 135 |
| 28 | 108 | 65 | 155 | 102 | 241 | 139 | 28 | 176 | | 213 | 147 | 250 | 165 |
| 29 | 32 | 66 | 88 | 103 | 47 | 140 | 234 | 177 | | 214 | 64 | 251 | 23 |
| 30 | 43 | 67 | 26 | 104 | 129 | 141 | 160 | 178 | | 215 | 216 | 252 | 58 |
| 31 | 243 | 68 | 143 | 105 | 230 | 142 | 113 | 179 | | 216 | 52 | 253 | 163 |
| 32 | 5 | 69 | 121 | 106 | 178 | 143 | 90 | 180 | | 217 | 176 | 254 | 60 |
| 33 | 87 | 70 | 233 | 107 | 63 | 144 | 209 | 181 | | 218 | 239 | 255 | 183 |
| 34 | 142 | 71 | 112 | 108 | 51 | 145 | 29 | 182 | | 219 | 38 | | |
| 35 | 232 | 72 | 208 | 109 | 238 | 146 | 195 | 183 | | 220 | 55 | | |
| 36 | 207 | 73 | 194 | 110 | 54 | 147 | 123 | 184 | 228 | 221 | 12 | | |

Anti-logarithm table for $\mathrm{GF}(256)$ with irreducible polynomial 395 $(0\mathrm{x}18\mathrm{B})$

by Cody Planteen; https://codyplanteen.com/notes/rs; June 24, 2019

 $F(x) = x^8 + x^7 + x^3 + x + 1, \, \alpha = x^3 + x + 1 = \text{ 11 = 0x0B}$

| \overline{j} | α^{j} | j | α^{j} | j | α^{j} | j | α^{j} | j | α^j | j | α^j | j | α^{j} |
|----------------|--------------|----|--------------|-----|--------------|-----|--------------|-----|------------|-----|------------|-----|--------------|
| 0 | 1 | 37 | 44 | 74 | 225 | 111 | 28 | 148 | 6 | 185 | 232 | 222 | 219 |
| 1 | 11 | 38 | 159 | 75 | 7 | 112 | 196 | 149 | 58 | 186 | 84 | 223 | 18 |
| 2 | 69 | 39 | 99 | 76 | 49 | 113 | 203 | 150 | 21 | 187 | 193 | 224 | 166 |
| 3 | 122 | 40 | 171 | 77 | 80 | 114 | 162 | 151 | 151 | 188 | 236 | 225 | 107 |
| 4 | 72 | 41 | 20 | 78 | 237 | 115 | 71 | 152 | 59 | 189 | 120 | 226 | 243 |
| 5 | 5 | 42 | 156 | 79 | 115 | 116 | 108 | 153 | 30 | 190 | 94 | 227 | 161 |
| 6 | 39 | 43 | 126 | 80 | 27 | 117 | 194 | 154 | 210 | 191 | 143 | 228 | 90 |
| 7 | 218 | 44 | 100 | 81 | 245 | 118 | 241 | 155 | 65 | 192 | 211 | 229 | 163 |
| 8 | 25 | 45 | 154 | 82 | 155 | 119 | 183 | 156 | 86 | 193 | 74 | 230 | 76 |
| 9 | 227 | 46 | 68 | 83 | 79 | 120 | 208 | 157 | 215 | 194 | 19 | 231 | 41 |
| 10 | 17 | 47 | 113 | 84 | 52 | 121 | 87 | 158 | 102 | 195 | 173 | 232 | 184 |
| 11 | 187 | 48 | 13 | 85 | 119 | 122 | 220 | 159 | 140 | 196 | 46 | 233 | 185 |
| 12 | 164 | 49 | 127 | 86 | 55 | 123 | 35 | 160 | 206 | 197 | 137 | 234 | 178 |
| 13 | 125 | 50 | 111 | 87 | 106 | 124 | 246 | 161 | 133 | 198 | 233 | 235 | 247 |
| 14 | 121 | 51 | 223 | 88 | 248 | 125 | 134 | 162 | 157 | 199 | 95 | 236 | 141 |
| 15 | 85 | 52 | 62 | 89 | 228 | 126 | 128 | 163 | 117 | 200 | 132 | 237 | 197 |
| 16 | 202 | 53 | 57 | 90 | 32 | 127 | 186 | 164 | 33 | 201 | 150 | 238 | 192 |
| 17 | 169 | 54 | 8 | 91 | 235 | 128 | 175 | 165 | 224 | 202 | 48 | 239 | 231 |
| 18 | 2 | 55 | 88 | 92 | 73 | 129 | 56 | 166 | 12 | 203 | 91 | 240 | 61 |
| 19 | 22 | 56 | 181 | 93 | 14 | 130 | 3 | 167 | 116 | 204 | 168 | 241 | 36 |
| 20 | 138 | 57 | 198 | 94 | 98 | 131 | 29 | 168 | 42 | 205 | 9 | 242 | 199 |
| 21 | 244 | 58 | 221 | 95 | 160 | 132 | 207 | 169 | 165 | 206 | 83 | 243 | 214 |
| 22 | 144 | 59 | 40 | 96 | 81 | 133 | 142 | 170 | 118 | 207 | 240 | 244 | 109 |
| 23 | 10 | 60 | 179 | 97 | 230 | 134 | 216 | 171 | 60 | 208 | 188 | 245 | 201 |
| 24 | 78 | 61 | 252 | 98 | 54 | 135 | 15 | 172 | 47 | 209 | 149 | 246 | 180 |
| 25 | 63 | 62 | 200 | 99 | 97 | 136 | 105 | 173 | 130 | 210 | 45 | 247 | 205 |
| 26 | 50 | 63 | 191 | 100 | 189 | 137 | 229 | 174 | 172 | 211 | 148 | 248 | 152 |
| 27 | 77 | 64 | 136 | 101 | 158 | 138 | 43 | 175 | 37 | 212 | 38 | 249 | 82 |
| 28 | 34 | 65 | 226 | 102 | 104 | 139 | 174 | 176 | 204 | 213 | 209 | 250 | 251 |
| 29 | 253 | 66 | 26 | 103 | 238 | 140 | 51 | 177 | 147 | 214 | 92 | 251 | 249 |
| 30 | 195 | 67 | 254 | 104 | 110 | 141 | 70 | 178 | 23 | 215 | 153 | 252 | 239 |
| 31 | 250 | 68 | 222 | 105 | 212 | 142 | 103 | 179 | 129 | 216 | 89 | 253 | 101 |
| 32 | 242 | 69 | 53 | 106 | 123 | 143 | 135 | 180 | 177 | 217 | 190 | 254 | 145 |
| 33 | 170 | 70 | 124 | 107 | 67 | 144 | 139 | 181 | 234 | 218 | 131 | * | 0 |
| 34 | 31 | 71 | 114 | 108 | 64 | 145 | 255 | 182 | 66 | 219 | 167 | | |
| 35 | 217 | 72 | 16 | 109 | 93 | 146 | 213 | 183 | 75 | 220 | 96 | | |
| 36 | 4 | 73 | 176 | 110 | 146 | 147 | 112 | 184 | 24 | 221 | 182 | | |

Logarithm table for GF(256) with irreducible polynomial 395 (0x18B)

by Cody Planteen; https://codyplanteen.com/notes/rs; June 24, 2019

$$F(x) = x^8 + x^7 + x^3 + x + 1, \ \alpha = x^3 + x + 1 = \ {\tt 11 = 0x0B}$$

Example: $35 \cdot 36 = \alpha^{123} \alpha^{241} = \alpha^{364} = \alpha^{364 \mod 255} = \alpha^{109} = 93$

| $\overline{\alpha^j}$ | j | α^{j} | j | α^{j} | j | α^{j} | j | α^{j} | j | α^{j} | j | α^{j} | j |
|-----------------------|-----|--------------|-----|--------------|-----------------|--------------|-----|--------------|-----|--------------|-----|--------------|-----|
| 0 | * | 37 | 175 | 74 | 193 | 111 | 50 | 148 | 211 | 185 | 233 | 222 | 68 |
| 1 | 0 | 38 | 212 | 75 | 183 | 112 | 147 | 149 | 209 | 186 | 127 | 223 | 51 |
| 2 | 18 | 39 | 6 | 76 | 230 | 113 | 47 | 150 | 201 | 187 | 11 | 224 | 165 |
| 3 | 130 | 40 | 59 | 77 | $\frac{27}{27}$ | 114 | 71 | 151 | 151 | 188 | 208 | 225 | 74 |
| 4 | 36 | 41 | 231 | 78 | 24 | 115 | 79 | 152 | 248 | 189 | 100 | 226 | 65 |
| 5 | 5 | 42 | 168 | 79 | 83 | 116 | 167 | 153 | 215 | 190 | 217 | 227 | 9 |
| 6 | 148 | 43 | 138 | 80 | 77 | 117 | 163 | 154 | 45 | 191 | 63 | 228 | 89 |
| 7 | 75 | 44 | 37 | 81 | 96 | 118 | 170 | 155 | 82 | 192 | 238 | 229 | 137 |
| 8 | 54 | 45 | 210 | 82 | 249 | 119 | 85 | 156 | 42 | 193 | 187 | 230 | 97 |
| 9 | 205 | 46 | 196 | 83 | 206 | 120 | 189 | 157 | 162 | 194 | 117 | 231 | 239 |
| 10 | 23 | 47 | 172 | 84 | 186 | 121 | 14 | 158 | 101 | 195 | 30 | 232 | 185 |
| 11 | 1 | 48 | 202 | 85 | 15 | 122 | 3 | 159 | 38 | 196 | 112 | 233 | 198 |
| 12 | 166 | 49 | 76 | 86 | 156 | 123 | 106 | 160 | 95 | 197 | 237 | 234 | 181 |
| 13 | 48 | 50 | 26 | 87 | 121 | 124 | 70 | 161 | 227 | 198 | 57 | 235 | 91 |
| 14 | 93 | 51 | 140 | 88 | 55 | 125 | 13 | 162 | 114 | 199 | 242 | 236 | 188 |
| 15 | 135 | 52 | 84 | 89 | 216 | 126 | 43 | 163 | 229 | 200 | 62 | 237 | 78 |
| 16 | 72 | 53 | 69 | 90 | 228 | 127 | 49 | 164 | 12 | 201 | 245 | 238 | 103 |
| 17 | 10 | 54 | 98 | 91 | 203 | 128 | 126 | 165 | 169 | 202 | 16 | 239 | 252 |
| 18 | 223 | 55 | 86 | 92 | 214 | 129 | 179 | 166 | 224 | 203 | 113 | 240 | 207 |
| 19 | 194 | 56 | 129 | 93 | 109 | 130 | 173 | 167 | 219 | 204 | 176 | 241 | 118 |
| 20 | 41 | 57 | 53 | 94 | 190 | 131 | 218 | 168 | 204 | 205 | 247 | 242 | 32 |
| 21 | 150 | 58 | 149 | 95 | 199 | 132 | 200 | 169 | 17 | 206 | 160 | 243 | 226 |
| 22 | 19 | 59 | 152 | 96 | 220 | 133 | 161 | 170 | 33 | 207 | 132 | 244 | 21 |
| 23 | 178 | 60 | 171 | 97 | 99 | 134 | 125 | 171 | 40 | 208 | 120 | 245 | 81 |
| 24 | 184 | 61 | 240 | 98 | 94 | 135 | 143 | 172 | 174 | 209 | 213 | 246 | 124 |
| 25 | 8 | 62 | 52 | 99 | 39 | 136 | 64 | 173 | 195 | 210 | 154 | 247 | 235 |
| 26 | 66 | 63 | 25 | 100 | 44 | 137 | 197 | 174 | 139 | 211 | 192 | 248 | 88 |
| 27 | 80 | 64 | 108 | 101 | 253 | 138 | 20 | 175 | 128 | 212 | 105 | 249 | 251 |
| 28 | 111 | 65 | 155 | 102 | 158 | 139 | 144 | 176 | 73 | 213 | 146 | 250 | 31 |
| 29 | 131 | 66 | 182 | 103 | 142 | 140 | 159 | 177 | 180 | 214 | 243 | 251 | 250 |
| 30 | 153 | 67 | 107 | 104 | 102 | 141 | 236 | 178 | 234 | 215 | 157 | 252 | 61 |
| 31 | 34 | 68 | 46 | 105 | 136 | 142 | 133 | 179 | 60 | 216 | 134 | 253 | 29 |
| 32 | 90 | 69 | 2 | 106 | 87 | 143 | 191 | 180 | 246 | 217 | 35 | 254 | 67 |
| 33 | 164 | 70 | 141 | 107 | 225 | 144 | 22 | 181 | 56 | 218 | 7 | 255 | 145 |
| 34 | 28 | 71 | 115 | 108 | 116 | 145 | 254 | 182 | 221 | 219 | 222 | | |
| 35 | 123 | 72 | 4 | 109 | 244 | 146 | 110 | 183 | 119 | 220 | 122 | | |
| 36 | 241 | 73 | 92 | 110 | 104 | 147 | 177 | 184 | 232 | 221 | 58 | | |

Anti-logarithm table for $\mathrm{GF}(256)$ with primitive, irreducible polynomial 397 (0x18D)

by Cody Planteen; https://codyplanteen.com/notes/rs; June 24, 2019

 $F(x) = x^8 + x^7 + x^3 + x^2 + 1, \, \alpha = x + 0 = \text{ 2 = 0x02}$

| \overline{j} | α^j | j | α^{j} | j | α^{j} | j | α^{j} | j | α^{j} | j | α^j | j | α^{j} |
|----------------|------------|----|--------------|-----|--------------|-----|--------------|-----|--------------|-----|------------|-----|--------------|
| 0 | 1 | 37 | 146 | 74 | 229 | 111 | 190 | 148 | 197 | 185 | 114 | 222 | 22 |
| 1 | 2 | 38 | 169 | 75 | 71 | 112 | 241 | 149 | 7 | 186 | 228 | 223 | 44 |
| 2 | 4 | 39 | 223 | 76 | 142 | 113 | 111 | 150 | 14 | 187 | 69 | 224 | 88 |
| 3 | 8 | 40 | 51 | 77 | 145 | 114 | 222 | 151 | 28 | 188 | 138 | 225 | 176 |
| 4 | 16 | 41 | 102 | 78 | 175 | 115 | 49 | 152 | 56 | 189 | 153 | 226 | 237 |
| 5 | 32 | 42 | 204 | 79 | 211 | 116 | 98 | 153 | 112 | 190 | 191 | 227 | 87 |
| 6 | 64 | 43 | 21 | 80 | 43 | 117 | 196 | 154 | 224 | 191 | 243 | 228 | 174 |
| 7 | 128 | 44 | 42 | 81 | 86 | 118 | 5 | 155 | 77 | 192 | 107 | 229 | 209 |
| 8 | 141 | 45 | 84 | 82 | 172 | 119 | 10 | 156 | 154 | 193 | 214 | 230 | 47 |
| 9 | 151 | 46 | 168 | 83 | 213 | 120 | 20 | 157 | 185 | 194 | 33 | 231 | 94 |
| 10 | 163 | 47 | 221 | 84 | 39 | 121 | 40 | 158 | 255 | 195 | 66 | 232 | 188 |
| 11 | 203 | 48 | 55 | 85 | 78 | 122 | 80 | 159 | 115 | 196 | 132 | 233 | 245 |
| 12 | 27 | 49 | 110 | 86 | 156 | 123 | 160 | 160 | 230 | 197 | 133 | 234 | 103 |
| 13 | 54 | 50 | 220 | 87 | 181 | 124 | 205 | 161 | 65 | 198 | 135 | 235 | 206 |
| 14 | 108 | 51 | 53 | 88 | 231 | 125 | 23 | 162 | 130 | 199 | 131 | 236 | 17 |
| 15 | 216 | 52 | 106 | 89 | 67 | 126 | 46 | 163 | 137 | 200 | 139 | 237 | 34 |
| 16 | 61 | 53 | 212 | 90 | 134 | 127 | 92 | 164 | 159 | 201 | 155 | 238 | 68 |
| 17 | 122 | 54 | 37 | 91 | 129 | 128 | 184 | 165 | 179 | 202 | 187 | 239 | 136 |
| 18 | 244 | 55 | 74 | 92 | 143 | 129 | 253 | 166 | 235 | 203 | 251 | 240 | 157 |
| 19 | 101 | 56 | 148 | 93 | 147 | 130 | 119 | 167 | 91 | 204 | 123 | 241 | 183 |
| 20 | 202 | 57 | 165 | 94 | 171 | 131 | 238 | 168 | 182 | 205 | 246 | 242 | 227 |
| 21 | 25 | 58 | 199 | 95 | 219 | 132 | 81 | 169 | 225 | 206 | 97 | 243 | 75 |
| 22 | 50 | 59 | 3 | 96 | 59 | 133 | 162 | 170 | 79 | 207 | 194 | 244 | 150 |
| 23 | 100 | 60 | 6 | 97 | 118 | 134 | 201 | 171 | 158 | 208 | 9 | 245 | 161 |
| 24 | 200 | 61 | 12 | 98 | 236 | 135 | 31 | 172 | 177 | 209 | 18 | 246 | 207 |
| 25 | 29 | 62 | 24 | 99 | 85 | 136 | 62 | 173 | 239 | 210 | 36 | 247 | 19 |
| 26 | 58 | 63 | 48 | 100 | 170 | 137 | 124 | 174 | 83 | 211 | 72 | 248 | 38 |
| 27 | 116 | 64 | 96 | 101 | 217 | 138 | 248 | 175 | 166 | 212 | 144 | 249 | 76 |
| 28 | 232 | 65 | 192 | 102 | 63 | 139 | 125 | 176 | 193 | 213 | 173 | 250 | 152 |
| 29 | 93 | 66 | 13 | 103 | 126 | 140 | 250 | 177 | 15 | 214 | 215 | 251 | 189 |
| 30 | 186 | 67 | 26 | 104 | 252 | 141 | 121 | 178 | 30 | 215 | 35 | 252 | 247 |
| 31 | 249 | 68 | 52 | 105 | 117 | 142 | 242 | 179 | 60 | 216 | 70 | 253 | 99 |
| 32 | 127 | 69 | 104 | 106 | 234 | 143 | 105 | 180 | 120 | 217 | 140 | 254 | 198 |
| 33 | 254 | 70 | 208 | 107 | 89 | 144 | 210 | 181 | 240 | 218 | 149 | * | 0 |
| 34 | 113 | 71 | 45 | 108 | 178 | 145 | 41 | 182 | 109 | 219 | 167 | | |
| 35 | 226 | 72 | 90 | 109 | 233 | 146 | 82 | 183 | 218 | 220 | 195 | | |
| 36 | 73 | 73 | 180 | 110 | 95 | 147 | 164 | 184 | 57 | 221 | 11 | | |

Logarithm table for GF(256) with primitive, irreducible polynomial 397 (0x18D)

by Cody Planteen; https://codyplanteen.com/notes/rs; June 24, 2019

$$F(x) = x^8 + x^7 + x^3 + x^2 + 1, \ \alpha = x + 0 = \text{ 2 = 0x02}$$

Example: $35 \cdot 36 = \alpha^{215} \alpha^{210} = \alpha^{425} = \alpha^{425 \mod 255} = \alpha^{170} = 79$

| $\frac{1}{\alpha^j}$ | j | α^{j} | j |
|----------------------|-----|--------------|-----|--------------|-----|--------------|-----|--------------|-----|--------------|-----|--------------|-----|
| 0 | * | 37 | 54 | 74 | 55 | 111 | 113 | 148 | 56 | 185 | 157 | 222 | 114 |
| 1 | 0 | 38 | 248 | 75 | 243 | 112 | 153 | 149 | 218 | 186 | 30 | 223 | 39 |
| 2 | 1 | 39 | 84 | 76 | 249 | 113 | 34 | 150 | 244 | 187 | 202 | 224 | 154 |
| 3 | 59 | 40 | 121 | 77 | 155 | 114 | 185 | 151 | 9 | 188 | 232 | 225 | 169 |
| 4 | 2 | 41 | 145 | 78 | 85 | 115 | 159 | 152 | 250 | 189 | 251 | 226 | 35 |
| 5 | 118 | 42 | 44 | 79 | 170 | 116 | 27 | 153 | 189 | 190 | 111 | 227 | 242 |
| 6 | 60 | 43 | 80 | 80 | 122 | 117 | 105 | 154 | 156 | 191 | 190 | 228 | 186 |
| 7 | 149 | 44 | 223 | 81 | 132 | 118 | 97 | 155 | 201 | 192 | 65 | 229 | 74 |
| 8 | 3 | 45 | 71 | 82 | 146 | 119 | 130 | 156 | 86 | 193 | 176 | 230 | 160 |
| 9 | 208 | 46 | 126 | 83 | 174 | 120 | 180 | 157 | 240 | 194 | 207 | 231 | 88 |
| 10 | 119 | 47 | 230 | 84 | 45 | 121 | 141 | 158 | 171 | 195 | 220 | 232 | 28 |
| 11 | 221 | 48 | 63 | 85 | 99 | 122 | 17 | 159 | 164 | 196 | 117 | 233 | 109 |
| 12 | 61 | 49 | 115 | 86 | 81 | 123 | 204 | 160 | 123 | 197 | 148 | 234 | 106 |
| 13 | 66 | 50 | 22 | 87 | 227 | 124 | 137 | 161 | 245 | 198 | 254 | 235 | 166 |
| 14 | 150 | 51 | 40 | 88 | 224 | 125 | 139 | 162 | 133 | 199 | 58 | 236 | 98 |
| 15 | 177 | 52 | 68 | 89 | 107 | 126 | 103 | 163 | 10 | 200 | 24 | 237 | 226 |
| 16 | 4 | 53 | 51 | 90 | 72 | 127 | 32 | 164 | 147 | 201 | 134 | 238 | 131 |
| 17 | 236 | 54 | 13 | 91 | 167 | 128 | 7 | 165 | 57 | 202 | 20 | 239 | 173 |
| 18 | 209 | 55 | 48 | 92 | 127 | 129 | 91 | 166 | 175 | 203 | 11 | 240 | 181 |
| 19 | 247 | 56 | 152 | 93 | 29 | 130 | 162 | 167 | 219 | 204 | 42 | 241 | 112 |
| 20 | 120 | 57 | 184 | 94 | 231 | 131 | 199 | 168 | 46 | 205 | 124 | 242 | 142 |
| 21 | 43 | 58 | 26 | 95 | 110 | 132 | 196 | 169 | 38 | 206 | 235 | 243 | 191 |
| 22 | 222 | 59 | 96 | 96 | 64 | 133 | 197 | 170 | 100 | 207 | 246 | 244 | 18 |
| 23 | 125 | 60 | 179 | 97 | 206 | 134 | 90 | 171 | 94 | 208 | 70 | 245 | 233 |
| 24 | 62 | 61 | 16 | 98 | 116 | 135 | 198 | 172 | 82 | 209 | 229 | 246 | 205 |
| 25 | 21 | 62 | 136 | 99 | 253 | 136 | 239 | 173 | 213 | 210 | 144 | 247 | 252 |
| 26 | 67 | 63 | 102 | 100 | 23 | 137 | 163 | 174 | 228 | 211 | 79 | 248 | 138 |
| 27 | 12 | 64 | 6 | 101 | 19 | 138 | 188 | 175 | 78 | 212 | 53 | 249 | 31 |
| 28 | 151 | 65 | 161 | 102 | 41 | 139 | 200 | 176 | 225 | 213 | 83 | 250 | 140 |
| 29 | 25 | 66 | 195 | 103 | 234 | 140 | 217 | 177 | 172 | 214 | 193 | 251 | 203 |
| 30 | 178 | 67 | 89 | 104 | 69 | 141 | 8 | 178 | 108 | 215 | 214 | 252 | 104 |
| 31 | 135 | 68 | 238 | 105 | 143 | 142 | 76 | 179 | 165 | 216 | 15 | 253 | 129 |
| 32 | 5 | 69 | 187 | 106 | 52 | 143 | 92 | 180 | 73 | 217 | 101 | 254 | 33 |
| 33 | 194 | 70 | 216 | 107 | 192 | 144 | 212 | 181 | 87 | 218 | 183 | 255 | 158 |
| 34 | 237 | 71 | 75 | 108 | 14 | 145 | 77 | 182 | 168 | 219 | 95 | | |
| 35 | 215 | 72 | 211 | 109 | 182 | 146 | 37 | 183 | 241 | 220 | 50 | | |
| 36 | 210 | 73 | 36 | 110 | 49 | 147 | 93 | 184 | 128 | 221 | 47 | | |

Anti-logarithm table for $\mathrm{GF}(256)$ with irreducible polynomial 415 $(0\mathrm{x}19\mathrm{F})$

by Cody Planteen; https://codyplanteen.com/notes/rs; June 24, 2019

 $F(x) = x^8 + x^7 + x^4 + x^3 + x^2 + x + 1, \ \alpha = x + 1 = \text{3 = 0x03}$

| \overline{j} | α^{j} | j | α^{j} | j | α^j | j | α^{j} | j | α^{j} | j | α^{j} | j | α^j |
|----------------|--------------|----|--------------|-----|------------|-----|--------------|----|--------------|-----|--------------|-----|------------|
| 0 | 1 | 37 | 49 | 74 | 67 | 111 | 235 | 14 | 8 79 | 185 | 56 | 222 | 101 |
| 1 | 3 | 38 | 83 | 75 | 197 | 112 | 162 | 14 | 9 209 | 186 | 72 | 223 | 175 |
| 2 | 5 | 39 | 245 | 76 | 208 | 113 | 121 | 15 | 236 | 187 | 216 | 224 | 110 |
| 3 | 15 | 40 | 128 | 77 | 239 | 114 | 139 | 15 | 1 171 | 188 | 247 | 225 | 178 |
| 4 | 17 | 41 | 31 | 78 | 174 | 115 | 2 | 15 | 2 98 | 189 | 134 | 226 | 73 |
| 5 | 51 | 42 | 33 | 79 | 109 | 116 | 6 | 15 | 3 166 | 190 | 21 | 227 | 219 |
| 6 | 85 | 43 | 99 | 80 | 183 | 117 | 10 | 15 | 4 117 | 191 | 63 | 228 | 242 |
| 7 | 255 | 44 | 165 | 81 | 70 | 118 | 30 | 15 | 5 159 | 192 | 65 | 229 | 137 |
| 8 | 158 | 45 | 112 | 82 | 202 | 119 | 34 | 15 | 62 | 193 | 195 | 230 | 4 |
| 9 | 61 | 46 | 144 | 83 | 193 | 120 | 102 | 15 | 7 66 | 194 | 218 | 231 | 12 |
| 10 | 71 | 47 | 47 | 84 | 220 | 121 | 170 | 15 | 8 198 | 195 | 241 | 232 | 20 |
| 11 | 201 | 48 | 113 | 85 | 251 | 122 | 97 | 15 | 9 213 | 196 | 140 | 233 | 60 |
| 12 | 196 | 49 | 147 | 86 | 146 | 123 | 163 | 16 | 224 | 197 | 11 | 234 | 68 |
| 13 | 211 | 50 | 42 | 87 | 41 | 124 | 122 | 16 | 1 191 | 198 | 29 | 235 | 204 |
| 14 | 234 | 51 | 126 | 88 | 123 | 125 | 142 | 16 | 2 94 | 199 | 39 | 236 | 203 |
| 15 | 161 | 52 | 130 | 89 | 141 | 126 | 13 | 16 | 3 226 | 200 | 105 | 237 | 194 |
| 16 | 124 | 53 | 25 | 90 | 8 | 127 | 23 | 16 | 4 185 | 201 | 187 | 238 | 217 |
| 17 | 132 | 54 | 43 | 91 | 24 | 128 | 57 | 16 | 5 84 | 202 | 82 | 239 | 244 |
| 18 | 19 | 55 | 125 | 92 | 40 | 129 | 75 | 16 | 3 252 | 203 | 246 | 240 | 131 |
| 19 | 53 | 56 | 135 | 93 | 120 | 130 | 221 | 16 | 7 155 | 204 | 133 | 241 | 26 |
| 20 | 95 | 57 | 22 | 94 | 136 | 131 | 248 | 16 | 8 50 | 205 | 16 | 242 | 46 |
| 21 | 225 | 58 | 58 | 95 | 7 | 132 | 151 | 16 | 9 86 | 206 | 48 | 243 | 114 |
| 22 | 188 | 59 | 78 | 96 | 9 | 133 | 38 | 17 | 250 | 207 | 80 | 244 | 150 |
| 23 | 91 | 60 | 210 | 97 | 27 | 134 | 106 | 17 | 1 145 | 208 | 240 | 245 | 37 |
| 24 | 237 | 61 | 233 | 98 | 45 | 135 | 190 | 17 | 2 44 | 209 | 143 | 246 | 111 |
| 25 | 168 | 62 | 164 | 99 | 119 | 136 | 93 | 17 | 3 116 | 210 | 14 | 247 | 177 |
| 26 | 103 | 63 | 115 | 100 | 153 | 137 | 231 | 17 | 4 156 | 211 | 18 | 248 | 76 |
| 27 | 169 | 64 | 149 | 101 | 52 | 138 | 182 | 17 | 5 59 | 212 | 54 | 249 | 212 |
| 28 | 100 | 65 | 32 | 102 | 92 | 139 | 69 | 17 | 6 77 | 213 | 90 | 250 | 227 |
| 29 | 172 | 66 | 96 | 103 | 228 | 140 | 207 | 17 | 7 215 | 214 | 238 | 251 | 186 |
| 30 | 107 | 67 | 160 | 104 | 179 | 141 | 206 | 17 | 8 230 | 215 | 173 | 252 | 81 |
| 31 | 189 | 68 | 127 | 105 | 74 | 142 | 205 | 17 | 9 181 | 216 | 104 | 253 | 243 |
| 32 | 88 | 69 | 129 | 106 | 222 | 143 | 200 | 18 | 0 64 | 217 | 184 | 254 | 138 |
| 33 | 232 | 70 | 28 | 107 | 253 | 144 | 199 | 18 | 1 192 | 218 | 87 | * | 0 |
| 34 | 167 | 71 | 36 | 108 | 152 | 145 | 214 | 18 | 2 223 | 219 | 249 | | |
| 35 | 118 | 72 | 108 | 109 | 55 | 146 | 229 | 18 | 3 254 | 220 | 148 | | |
| 36 | 154 | 73 | 180 | 110 | 89 | 147 | 176 | 18 | 4 157 | 221 | 35 | | |

Logarithm table for GF(256) with irreducible polynomial 415 (0x19F)

by Cody Planteen; https://codyplanteen.com/notes/rs; June 24, 2019

$$F(x) = x^8 + x^7 + x^4 + x^3 + x^2 + x + 1, \ \alpha = x + 1 = \mathbf{3} = \mathbf{0} \mathbf{x} \mathbf{0} \mathbf{3}$$

Example: $35 \cdot 36 = \alpha^{221} \alpha^{71} = \alpha^{292} = \alpha^{292 \mod 255} = \alpha^{37} = 49$

| $\frac{1}{\alpha^j}$ | j | α^{j} | j | α^{j} | j | α^{j} | j | α^{j} | \overline{j} | α^{j} | j | α^{j} | j |
|----------------------|------------|-----------------|------------------|--------------|-------------------|-------------------|------------------|-------------------|-------------------|--------------|-------------------|-------------------|-------------------|
| | * | | | | | | | | | | | | |
| 0 1 | 0 | $\frac{37}{38}$ | $245 \\ 133$ | 74 75 | $105 \\ 129$ | 111 112 | $\frac{246}{45}$ | 148 149 | $\frac{220}{64}$ | 185 186 | $\frac{164}{251}$ | $\frac{222}{223}$ | 106 182 |
| 2 | 115 | 39 | 199 | 76 | 248 | 113 | 48 | $\frac{149}{150}$ | $\frac{04}{244}$ | 187 | $\frac{251}{201}$ | $\frac{223}{224}$ | 160 |
| 3 | 110 | 39 40 | 199 92 | 76 77 | $\frac{248}{176}$ | 113 114 | $\frac{48}{243}$ | 150 151 | $\frac{244}{132}$ | 188 | $\frac{201}{22}$ | $\frac{224}{225}$ | 21 |
| | 230 | 41 | 92 87 | 78 | 59 | 114 | 63 | $151 \\ 152$ | 108 | 189 | 31 | $\frac{225}{226}$ | $\frac{21}{163}$ |
| 4 | 250 | $\frac{41}{42}$ | 50 | 79 | 59 148 | 116 | | | 100 | 190 | $\frac{31}{135}$ | $\frac{220}{227}$ | $\frac{105}{250}$ |
| 5 | 2 116 | $\frac{42}{43}$ | 50 | 80 | $\frac{148}{207}$ | 110 117 | 173 154 | 153 154 | 36 | 190 191 | 161 | 228 | $\frac{250}{103}$ |
| 6 | | | | | | | | | | | | | |
| 7 | 95 90 | 44 | 172 98 | 81 | 252 | 118 | 35 | 155 | 167 | 192 | 181 | 229 | 146 |
| 8 9 | 90 96 | $\frac{45}{46}$ | $\frac{98}{242}$ | 82 83 | 202 38 | 119 120 | 99 93 | 156 | 174 184 | 193 194 | $83 \\ 237$ | 230 231 | 178 137 |
| | | | $\frac{242}{47}$ | | $\frac{38}{165}$ | | 93 113 | 157 | 184 8 | | | | 33 |
| 10 11 | 117 197 | 47 48 | 206 | 84 85 | 100 6 | 121 122 | $113 \\ 124$ | 158 159 | 8 155 | 195 196 | 193 | $232 \\ 233$ | 33 61 |
| 12 | | | $\frac{200}{37}$ | | | $\frac{122}{123}$ | | | 67 | | 12 | 233 234 | |
| 13 | 231 126 | 49 | | 86 | 169 218 | $\frac{123}{124}$ | 88 | 160 | ο <i>τ</i> 15 | 197 | 75 | $\frac{234}{235}$ | 14 111 |
| | | 50 | 168 | 87 | | | 16 | 161 | | 198 | 158 | | |
| 14 | 210 | 51 | 5 | 88 | 32 | 125 | 55 | 162 | 112 | 199 | 144 | 236 | 150 |
| 15 | 3 | 52 | 101 | 89 | 110 | 126 | 51 | 163 | 123 | 200 | 143 | 237 | 24 |
| 16 | 205 | 53 | 19 | 90 | 213 | 127 | 68 | 164 | 62 | 201 | 11 | 238 | 214 |
| 17 | 4 | 54 | 212 | 91 | 23 | 128 | 40 | 165 | 44 | 202 | 82 | 239 | 77 |
| 18 | 211 | 55 56 | 109 | 92 | 102 | 129 | 69 50 | 166 | 153 | 203 | 236 | 240 | 208 |
| 19 | 18 | 56 | 185 | 93 | 136 | 130 | 52 | 167 | 34 | 204 | 235 | 241 | 195 |
| 20 | 232 | 57 | 128 | 94 | 162 | 131 | 240 | 168 | 25 | 205 | 142 | 242 | 228 |
| 21 | 190 | 58 | 58 | 95 | 20 | 132 | 17 | 169 | 27 | 206 | 141 | 243 | 253 |
| 22 | 57 | 59 | 175 | 96 | 66 | 133 | 204 | 170 | 121 | 207 | 140 | 244 | 239 |
| 23 | 127 | 60 | 233 | 97 | 122 | 134 | 189 | 171 | 151 | 208 | 76 | 245 | 39 |
| 24 | 91 | 61 | 9 | 98 | 152 | 135 | 56 | 172 | 29 | 209 | 149 | 246 | 203 |
| 25 | 53 | 62 | 156 | 99 | 43 | 136 | 94 | 173 | 215 | 210 | 60 | 247 | 188 |
| 26 | 241 | 63 | 191 | 100 | 28 | 137 | 229 | 174 | 78 | 211 | 13 | 248 | 131 |
| 27 | 97 | 64 | 180 | 101 | 222 | 138 | 254 | 175 | 223 | 212 | 249 | 249 | 219 |
| 28 | 70 | 65 cc | 192 | 102 | 120 | 139 | 114 | 176 | 147 | 213 | 159 | 250 | 170 |
| 29 | 198 | 66 | 157 | 103 | 26 | 140 | 196 | 177 | 247 | 214 | 145 | 251 | 85 |
| 30 | 118 | 67 | 74 | 104 | 216 | 141 | 89 | 178 | 225 | 215 | 177 | 252 | 166 |
| 31 | 41 | 68 | 234 | 105 | 200 | 142 | 125 | 179 | 104 | 216 | 187 | 253 | 107 |
| 32 | 65 | 69 70 | 139 | 106 | 134 | 143 | 209 | 180 | 73 | 217 | 238 | 254 | 183 |
| 33 | 42 | 70 | 81 | 107 | 30 | 144 | 46 | 181 | 179 | 218 | 194 | 255 | 7 |
| 34 | 119 | 71 | 10 | 108 | 72 | 145 | 171 | 182 | 138 | 219 | 227 | | |
| 35 | 221 | 72 | 186 | 109 | 79 | 146 | 86 | 183 | 80 | 220 | 84 | | |
| 36 | 71 | 73 | 226 | 110 | 224 | 147 | 49 | 184 | 217 | 221 | 130 | | |

Anti-logarithm table for $\mathrm{GF}(256)$ with irreducible polynomial 419 $(0\mathrm{x}1\mathrm{A}3)$

by Cody Planteen; https://codyplanteen.com/notes/rs; June 24, 2019

 $F(x) = x^8 + x^7 + x^5 + x + 1, \, \alpha = x + 1 = \text{ 3 = 0x03}$

| \overline{j} | α^j | j | α^j | j | α^{j} | j | α^{j} | j | α | j j | α^{j} | j | α^{j} |
|----------------|------------|----|------------|-----|--------------|-----|--------------|----|----------|----------------|--------------|-----|--------------|
| 0 | 1 | 37 | 122 | 74 | 137 | 111 | 253 | 14 | 8 93 | 3 18 | 5 241 | 222 | 128 |
| 1 | 3 | 38 | 142 | 75 | 56 | 112 | 164 | 14 | 9 23 | | | 223 | 35 |
| 2 | 5 | 39 | 49 | 76 | 72 | 113 | 79 | 15 | | 38 187 | 7 115 | 224 | 101 |
| 3 | 15 | 40 | 83 | 77 | 216 | 114 | 209 | 15 | | | | 225 | 175 |
| 4 | 17 | 41 | 245 | 78 | 203 | 115 | 208 | 15 | | | | 226 | 82 |
| 5 | 51 | 42 | 188 | 79 | 254 | 116 | 211 | 15 | 3 20 |)1 190 | 36 | 227 | 246 |
| 6 | 85 | 43 | 103 | 80 | 161 | 117 | 214 | 15 | 4 2 | 18 191 | 1 108 | 228 | 185 |
| 7 | 255 | 44 | 169 | 81 | 64 | 118 | 217 | 15 | | 71 192 | 2 180 | 229 | 104 |
| 8 | 162 | 45 | 88 | 82 | 192 | 119 | 200 | 15 | 6 94 | 193 | | 230 | 184 |
| 9 | 69 | 46 | 232 | 83 | 227 | 120 | 251 | 15 | 7 22 | 26 	 194 | 129 | 231 | 107 |
| 10 | 207 | 47 | 155 | 84 | 134 | 121 | 174 | 15 | 8 13 | 195 | 32 | 232 | 189 |
| 11 | 242 | 48 | 14 | 85 | 41 | 122 | 81 | 15 | 9 4 | 196 | 6 96 | 233 | 100 |
| 12 | 181 | 49 | 18 | 86 | 123 | 123 | 243 | 16 | 0 1 | 16 197 | 7 160 | 234 | 172 |
| 13 | 124 | 50 | 54 | 87 | 141 | 124 | 182 | 16 | 1 15 | 56 198 | 8 67 | 235 | 87 |
| 14 | 132 | 51 | 90 | 88 | 52 | 125 | 121 | 16 | 2 7 | 199 | 9 197 | 236 | 249 |
| 15 | 47 | 52 | 238 | 89 | 92 | 126 | 139 | 16 | 3 9 | 200 | 236 | 237 | 168 |
| 16 | 113 | 53 | 145 | 90 | 228 | 127 | 62 | 16 | 4 2 | 7 201 | 151 | 238 | 91 |
| 17 | 147 | 54 | 16 | 91 | 143 | 128 | 66 | 16 | 5 - 45 | $5 \qquad 202$ | 2 26 | 239 | 237 |
| 18 | 22 | 55 | 48 | 92 | 50 | 129 | 198 | 16 | 6 1 | 19 203 | 3 46 | 240 | 148 |
| 19 | 58 | 56 | 80 | 93 | 86 | 130 | 233 | 16 | 7 15 | 53 204 | 114 | 241 | 31 |
| 20 | 78 | 57 | 240 | 94 | 250 | 131 | 152 | 16 | 8 8 | 205 | 5 150 | 242 | 33 |
| 21 | 210 | 58 | 179 | 95 | 173 | 132 | 11 | 16 | 9 24 | 1 206 | 3 25 | 243 | 99 |
| 22 | 213 | 59 | 118 | 96 | 84 | 133 | 29 | 17 | 0 40 | 207 | 7 43 | 244 | 165 |
| 23 | 220 | 60 | 154 | 97 | 252 | 134 | 39 | 17 | 1 12 | 20 208 | 8 125 | 245 | 76 |
| 24 | 199 | 61 | 13 | 98 | 167 | 135 | 105 | 17 | 2 13 | 36 209 | 9 135 | 246 | 212 |
| 25 | 234 | 62 | 23 | 99 | 74 | 136 | 187 | 17 | 3 59 | 210 |) 42 | 247 | 223 |
| 26 | 157 | 63 | 57 | 100 | 222 | 137 | 110 | 17 | 4 7 | 7 211 | 1 126 | 248 | 194 |
| 27 | 4 | 64 | 75 | 101 | 193 | 138 | 178 | 17 | 5 2 | 15 212 | 2 130 | 249 | 229 |
| 28 | 12 | 65 | 221 | 102 | 224 | 139 | 117 | 17 | 6 2 | 18 213 | 3 37 | 250 | 140 |
| 29 | 20 | 66 | 196 | 103 | 131 | 140 | 159 | 17 | 7 20 | 05 214 | 4 111 | 251 | 55 |
| 30 | 60 | 67 | 239 | 104 | 38 | 141 | 2 | 17 | 8 24 | 14 215 | 5 177 | 252 | 89 |
| 31 | 68 | 68 | 146 | 105 | 106 | 142 | 6 | 17 | 9 19 | 91 216 | 3 112 | 253 | 235 |
| 32 | 204 | 69 | 21 | 106 | 190 | 143 | 10 | 18 | 0 98 | 3 217 | 7 144 | 254 | 158 |
| 33 | 247 | 70 | 63 | 107 | 97 | 144 | 30 | 18 | | 36 218 | | * | 0 |
| 34 | 186 | 71 | 65 | 108 | 163 | 145 | 34 | 18 | 2 73 | 3 219 | 9 53 | | |
| 35 | 109 | 72 | 195 | 109 | 70 | 146 | 102 | 18 | 3 2 | 19 220 | 95 | | |
| 36 | 183 | 73 | 230 | 110 | 202 | 147 | 170 | 18 | | 06 223 | | | |

Logarithm table for GF(256) with irreducible polynomial 419 (0x1A3)

by Cody Planteen; https://codyplanteen.com/notes/rs; June 24, 2019

$$F(x) = x^8 + x^7 + x^5 + x + 1, \ \alpha = x + 1 = 3 = 0$$
x03

Example: $35 \cdot 36 = \alpha^{223} \alpha^{190} = \alpha^{413} = \alpha^{413 \mod 255} = \alpha^{158} = 133$

| $\frac{1}{\alpha^j}$ | j | α^{j} | j | α^{j} | j | α^{j} | j | α^{j} | j | α^{j} | j | α^{j} | j |
|----------------------|-----|--------------|-----|--------------|-----|--------------|-----------------|--------------|-----|--------------|-----|--------------|-----|
| 0 | * | 37 | 213 | 74 | 99 | 111 | $\frac{3}{214}$ | 148 | 240 | 185 | 228 | 222 | 100 |
| 1 | 0 | 38 | 104 | 75 | 64 | 112 | 216 | 149 | 188 | 186 | 34 | 223 | 247 |
| 2 | 141 | 39 | 134 | 76 | 245 | 113 | 16 | 150 | 205 | 187 | 136 | 224 | 102 |
| 3 | 1 | 40 | 170 | 77 | 174 | 114 | 204 | 151 | 201 | 188 | 42 | 225 | 221 |
| 4 | 27 | 41 | 85 | 78 | 20 | 115 | 187 | 152 | 131 | 189 | 232 | 226 | 157 |
| 5 | 2 | 42 | 210 | 79 | 113 | 116 | 160 | 153 | 167 | 190 | 106 | 227 | 83 |
| 6 | 142 | 43 | 207 | 80 | 56 | 117 | 139 | 154 | 60 | 191 | 179 | 228 | 90 |
| 7 | 162 | 44 | 159 | 81 | 122 | 118 | 59 | 155 | 47 | 192 | 82 | 229 | 249 |
| 8 | 168 | 45 | 165 | 82 | 226 | 119 | 166 | 156 | 161 | 193 | 101 | 230 | 73 |
| 9 | 163 | 46 | 203 | 83 | 40 | 120 | 171 | 157 | 26 | 194 | 248 | 231 | 149 |
| 10 | 143 | 47 | 15 | 84 | 96 | 121 | 125 | 158 | 254 | 195 | 72 | 232 | 46 |
| 11 | 132 | 48 | 55 | 85 | 6 | 122 | 37 | 159 | 140 | 196 | 66 | 233 | 130 |
| 12 | 28 | 49 | 39 | 86 | 93 | 123 | 86 | 160 | 197 | 197 | 199 | 234 | 25 |
| 13 | 61 | 50 | 92 | 87 | 235 | 124 | 13 | 161 | 80 | 198 | 129 | 235 | 253 |
| 14 | 48 | 51 | 5 | 88 | 45 | 125 | 208 | 162 | 8 | 199 | 24 | 236 | 200 |
| 15 | 3 | 52 | 88 | 89 | 252 | 126 | 211 | 163 | 108 | 200 | 119 | 237 | 239 |
| 16 | 54 | 53 | 219 | 90 | 51 | 127 | 193 | 164 | 112 | 201 | 153 | 238 | 52 |
| 17 | 4 | 54 | 50 | 91 | 238 | 128 | 222 | 165 | 244 | 202 | 110 | 239 | 67 |
| 18 | 49 | 55 | 251 | 92 | 89 | 129 | 194 | 166 | 181 | 203 | 78 | 240 | 57 |
| 19 | 218 | 56 | 75 | 93 | 148 | 130 | 212 | 167 | 98 | 204 | 32 | 241 | 185 |
| 20 | 29 | 57 | 63 | 94 | 156 | 131 | 103 | 168 | 237 | 205 | 177 | 242 | 11 |
| 21 | 69 | 58 | 19 | 95 | 220 | 132 | 14 | 169 | 44 | 206 | 184 | 243 | 123 |
| 22 | 18 | 59 | 173 | 96 | 196 | 133 | 158 | 170 | 147 | 207 | 10 | 244 | 178 |
| 23 | 62 | 60 | 30 | 97 | 107 | 134 | 84 | 171 | 155 | 208 | 115 | 245 | 41 |
| 24 | 169 | 61 | 151 | 98 | 180 | 135 | 209 | 172 | 234 | 209 | 114 | 246 | 227 |
| 25 | 206 | 62 | 127 | 99 | 243 | 136 | 172 | 173 | 95 | 210 | 21 | 247 | 33 |
| 26 | 202 | 63 | 70 | 100 | 233 | 137 | 74 | 174 | 121 | 211 | 116 | 248 | 154 |
| 27 | 164 | 64 | 81 | 101 | 224 | 138 | 150 | 175 | 225 | 212 | 246 | 249 | 236 |
| 28 | 189 | 65 | 71 | 102 | 146 | 139 | 126 | 176 | 186 | 213 | 22 | 250 | 94 |
| 29 | 133 | 66 | 128 | 103 | 43 | 140 | 250 | 177 | 215 | 214 | 117 | 251 | 120 |
| 30 | 144 | 67 | 198 | 104 | 229 | 141 | 87 | 178 | 138 | 215 | 175 | 252 | 97 |
| 31 | 241 | 68 | 31 | 105 | 135 | 142 | 38 | 179 | 58 | 216 | 77 | 253 | 111 |
| 32 | 195 | 69 | 9 | 106 | 105 | 143 | 91 | 180 | 192 | 217 | 118 | 254 | 79 |
| 33 | 242 | 70 | 109 | 107 | 231 | 144 | 217 | 181 | 12 | 218 | 176 | 255 | 7 |
| 34 | 145 | 71 | 152 | 108 | 191 | 145 | 53 | 182 | 124 | 219 | 183 | | |
| 35 | 223 | 72 | 76 | 109 | 35 | 146 | 68 | 183 | 36 | 220 | 23 | | |
| 36 | 190 | 73 | 182 | 110 | 137 | 147 | 17 | 184 | 230 | 221 | 65 | | |

Anti-logarithm table for $\mathrm{GF}(256)$ with primitive, irreducible polynomial $425~(0\mathrm{x}1\mathrm{A}9)$

by Cody Planteen; https://codyplanteen.com/notes/rs; June 24, 2019

 $F(x) = x^8 + x^7 + x^5 + x^3 + 1, \, \alpha = x + 0 = \text{ 2 = 0x02}$

| \overline{j} | α^j | j | α^j | j | α^j | j | α^{j} | j | α^j | j | α^j | j | α^j |
|----------------|------------|----|------------|-----|------------|-----|--------------|-----|------------|-----|------------|-----|------------|
| 0 | 1 | 37 | 189 | 74 | 161 | 111 | 140 | 148 | 88 | 185 | 210 | 222 | 86 |
| 1 | 2 | 38 | 211 | 75 | 235 | 112 | 177 | 149 | 176 | 186 | 13 | 223 | 172 |
| 2 | 4 | 39 | 15 | 76 | 127 | 113 | 203 | 150 | 201 | 187 | 26 | 224 | 241 |
| 3 | 8 | 40 | 30 | 77 | 254 | 114 | 63 | 151 | 59 | 188 | 52 | 225 | 75 |
| 4 | 16 | 41 | 60 | 78 | 85 | 115 | 126 | 152 | 118 | 189 | 104 | 226 | 150 |
| 5 | 32 | 42 | 120 | 79 | 170 | 116 | 252 | 153 | 236 | 190 | 208 | 227 | 133 |
| 6 | 64 | 43 | 240 | 80 | 253 | 117 | 81 | 154 | 113 | 191 | 9 | 228 | 163 |
| 7 | 128 | 44 | 73 | 81 | 83 | 118 | 162 | 155 | 226 | 192 | 18 | 229 | 239 |
| 8 | 169 | 45 | 146 | 82 | 166 | 119 | 237 | 156 | 109 | 193 | 36 | 230 | 119 |
| 9 | 251 | 46 | 141 | 83 | 229 | 120 | 115 | 157 | 218 | 194 | 72 | 231 | 238 |
| 10 | 95 | 47 | 179 | 84 | 99 | 121 | 230 | 158 | 29 | 195 | 144 | 232 | 117 |
| 11 | 190 | 48 | 207 | 85 | 198 | 122 | 101 | 159 | 58 | 196 | 137 | 233 | 234 |
| 12 | 213 | 49 | 55 | 86 | 37 | 123 | 202 | 160 | 116 | 197 | 187 | 234 | 125 |
| 13 | 3 | 50 | 110 | 87 | 74 | 124 | 61 | 161 | 232 | 198 | 223 | 235 | 250 |
| 14 | 6 | 51 | 220 | 88 | 148 | 125 | 122 | 162 | 121 | 199 | 23 | 236 | 93 |
| 15 | 12 | 52 | 17 | 89 | 129 | 126 | 244 | 163 | 242 | 200 | 46 | 237 | 186 |
| 16 | 24 | 53 | 34 | 90 | 171 | 127 | 65 | 164 | 77 | 201 | 92 | 238 | 221 |
| 17 | 48 | 54 | 68 | 91 | 255 | 128 | 130 | 165 | 154 | 202 | 184 | 239 | 19 |
| 18 | 96 | 55 | 136 | 92 | 87 | 129 | 173 | 166 | 157 | 203 | 217 | 240 | 38 |
| 19 | 192 | 56 | 185 | 93 | 174 | 130 | 243 | 167 | 147 | 204 | 27 | 241 | 76 |
| 20 | 41 | 57 | 219 | 94 | 245 | 131 | 79 | 168 | 143 | 205 | 54 | 242 | 152 |
| 21 | 82 | 58 | 31 | 95 | 67 | 132 | 158 | 169 | 183 | 206 | 108 | 243 | 153 |
| 22 | 164 | 59 | 62 | 96 | 134 | 133 | 149 | 170 | 199 | 207 | 216 | 244 | 155 |
| 23 | 225 | 60 | 124 | 97 | 165 | 134 | 131 | 171 | 39 | 208 | 25 | 245 | 159 |
| 24 | 107 | 61 | 248 | 98 | 227 | 135 | 175 | 172 | 78 | 209 | 50 | 246 | 151 |
| 25 | 214 | 62 | 89 | 99 | 111 | 136 | 247 | 173 | 156 | 210 | 100 | 247 | 135 |
| 26 | 5 | 63 | 178 | 100 | 222 | 137 | 71 | 174 | 145 | 211 | 200 | 248 | 167 |
| 27 | 10 | 64 | 205 | 101 | 21 | 138 | 142 | 175 | 139 | 212 | 57 | 249 | 231 |
| 28 | 20 | 65 | 51 | 102 | 42 | 139 | 181 | 176 | 191 | 213 | 114 | 250 | 103 |
| 29 | 40 | 66 | 102 | 103 | 84 | 140 | 195 | 177 | 215 | 214 | 228 | 251 | 206 |
| 30 | 80 | 67 | 204 | 104 | 168 | 141 | 47 | 178 | 7 | 215 | 97 | 252 | 53 |
| 31 | 160 | 68 | 49 | 105 | 249 | 142 | 94 | 179 | 14 | 216 | 194 | 253 | 106 |
| 32 | 233 | 69 | 98 | 106 | 91 | 143 | 188 | 180 | 28 | 217 | 45 | 254 | 212 |
| 33 | 123 | 70 | 196 | 107 | 182 | 144 | 209 | 181 | 56 | 218 | 90 | * | 0 |
| 34 | 246 | 71 | 33 | 108 | 197 | 145 | 11 | 182 | 112 | 219 | 180 | | |
| 35 | 69 | 72 | 66 | 109 | 35 | 146 | 22 | 183 | 224 | 220 | 193 | | |
| 36 | 138 | 73 | 132 | 110 | 70 | 147 | 44 | 184 | 105 | 221 | 43 | | |

Logarithm table for GF(256) with primitive, irreducible polynomial 425 (0x1A9)

by Cody Planteen; https://codyplanteen.com/notes/rs; June 24, 2019

$$F(x) = x^8 + x^7 + x^5 + x^3 + 1, \ \alpha = x + 0 = \text{2 = 0x02}$$

Example: $35 \cdot 36 = \alpha^{109} \alpha^{193} = \alpha^{302} = \alpha^{302 \mod 255} = \alpha^{47} = 179$

| $\overline{\alpha^j}$ | j | α^{j} | j | α^{j} | j | α^{j} | j | α^{j} | j | α^{j} | j | α^{j} | j |
|-----------------------|------------|--------------|-----------|--------------|-----------|-------------------|------------------|--------------|-------------------|-------------------|-----------|--------------|-----|
| 0 | * | 37 | 86 | 74 | 87 | 111 | 99 | 148 | 88 | 185 | 56 | 222 | 100 |
| 1 | 0 | 38 | 240 | 75 | 225 | 112 | 182 | 149 | 133 | 186 | 237 | 223 | 198 |
| 2 | 1 | 39 | 171 | 76 | 241 | 113 | 154 | 150 | 226 | 187 | 197 | 224 | 183 |
| 3 | 13 | 40 | 29 | 77 | 164 | 114 | 213 | 151 | 246 | 188 | 143 | 225 | 23 |
| 4 | 2 | 41 | 20 | 78 | 172 | 115 | 120 | 152 | 242 | 189 | 37 | 226 | 155 |
| 5 | 26 | 42 | 102 | 79 | 131 | 116 | 160 | 153 | 243 | 190 | 11 | 227 | 98 |
| 6 | 14 | 43 | 221 | 80 | 30 | 117 | 232 | 154 | 165 | 191 | 176 | 228 | 214 |
| 7 | 178 | 44 | 147 | 81 | 117 | 118 | 152 | 155 | 244 | 192 | 19 | 229 | 83 |
| 8 | 3 | 45 | 217 | 82 | 21 | 119 | 230 | 156 | 173 | 193 | 220 | 230 | 121 |
| 9 | 191 | 46 | 200 | 83 | 81 | 120 | 42 | 157 | 166 | 194 | 216 | 231 | 249 |
| 10 | 27 | 47 | 141 | 84 | 103 | 121 | 162 | 158 | 132 | 195 | 140 | 232 | 161 |
| 11 | 145 | 48 | 17 | 85 | 78 | 122 | 125 | 159 | 245 | 196 | 70 | 233 | 32 |
| 12 | 15 | 49 | 68 | 86 | 222 | 123 | 33 | 160 | 31 | 197 | 108 | 234 | 233 |
| 13 | 186 | 50 | 209 | 87 | 92 | 124 | 60 | 161 | 74 | 198 | 85 | 235 | 75 |
| 14 | 179 | 51 | 65 | 88 | 148 | 125 | 234 | 162 | 118 | 199 | 170 | 236 | 153 |
| 15 | 39 | 52 | 188 | 89 | 62 | 126 | 115 | 163 | 228 | 200 | 211 | 237 | 119 |
| 16 | 4 | 53 | 252 | 90 | 218 | 127 | 76 | 164 | 22 | 201 | 150 | 238 | 231 |
| 17 | 52 | 54 | 205 | 91 | 106 | 128 | 7 | 165 | 97 | 202 | 123 | 239 | 229 |
| 18 | 192 | 55 | 49 | 92 | 201 | 129 | 89 | 166 | 82 | 203 | 113 | 240 | 43 |
| 19 | 239 | 56 | 181 | 93 | 236 | 130 | 128 | 167 | 248 | 204 | 67 | 241 | 224 |
| 20 | 28 | 57 | 212 | 94 | 142 | 131 | 134 | 168 | 104 | 205 | 64 | 242 | 163 |
| 21 | 101 | 58 | 159 | 95 | 10 | 132 | 73 | 169 | 8 | 206 | 251 | 243 | 130 |
| 22 | 146 | 59 | 151 | 96 | 18 | 133 | 227 | 170 | 79 | 207 | 48 | 244 | 126 |
| 23 | 199 | 60 | 41 | 97 | 215 | 134 | 96 | 171 | 90 | 208 | 190 | 245 | 94 |
| 24 | 16 | 61 | 124 | 98 | 69 | 135 | 247 | 172 | 223 | 209 | 144 | 246 | 34 |
| 25 | 208 | 62 | 59 | 99 | 84 | 136 | 55 | 173 | 129 | 210 | 185 | 247 | 136 |
| 26 | 187 | 63 | 114 | 100 | 210 | 137 | 196 | 174 | 93 | 211 | 38 | 248 | 61 |
| 27 | 204 | 64 | 6 | 101 | 122 | 138 | 36 | 175 | 135 | 212 | 254 | 249 | 105 |
| 28 | 180 | 65 | 127 | 102 | 66 | 139 | 175 | 176 | 149 | 213 | 12 | 250 | 235 |
| 29 | 158 | 66 | 72 | 103 | 250 | 140 | 111 | 177 | 112 | 214 | 25 | 251 | 9 |
| 30 | 40 | 67 | 95 | 104 | 189 | 141 | 46 | 178 | 63 | 215 | 177 | 252 | 116 |
| 31 | 58 | 68 | 54 | 105 | 184 | 142 | 138 | 179 | 47 | 216 | 207 | 253 | 80 |
| 32 | 5 71 | 69 70 | 35 | 106 | 253 | 143 | 168 | 180 | 219 | 217 | 203 | 254 | 77 |
| 33 | 71 52 | 70 71 | 110 | 107 | 24 | 144 | 195 | 181 | 139 | 218 | 157 | 255 | 91 |
| 34 | 53 | 71 | 137 | 108 | 206 | 145 | 174 | 182 | 107 | 219 | 57 | | |
| $\frac{35}{36}$ | 109 193 | 72 73 | 194 44 | 109 | 156 50 | $\frac{146}{147}$ | $\frac{45}{167}$ | 183 | $\frac{169}{202}$ | $\frac{220}{221}$ | 51 238 | | |
| 90 | 199 | 19 | 44 | 110 | 90 | 14/ | 107 | 184 | 202 | 221 | 238 | | |

Anti-logarithm table for $\mathrm{GF}(256)$ with irreducible polynomial 433 $(0\mathrm{x}1\mathrm{B}1)$

by Cody Planteen; https://codyplanteen.com/notes/rs; June 24, 2019

 $F(x) = x^8 + x^7 + x^5 + x^4 + 1, \ \alpha = x^2 + x + 1 = 7 = 0 \text{x07}$

| \overline{j} | α^{j} | j | α^{j} | \overline{j} | α^{j} | \overline{j} | α^{j} | j | α^{j} | j | α^{j} | j | α^{j} |
|----------------|--------------|----|--------------|----------------|--------------|----------------|--------------|-----|--------------|-----|--------------|-----|--------------|
| 0 | 1 | 37 | 125 | 74 | 171 | 111 | 120 | 148 | 147 | 185 | 172 | 222 | 186 |
| 1 | 7 | 38 | 194 | 75 | 51 | 112 | 217 | 149 | 155 | 186 | 38 | 223 | 68 |
| 2 | 21 | 39 | 157 | 76 | 153 | 113 | 220 | 150 | 163 | 187 | 242 | 224 | 109 |
| 3 | 107 | 40 | 177 | 77 | 173 | 114 | 199 | 151 | 11 | 188 | 13 | 225 | 178 |
| 4 | 160 | 41 | 117 | 78 | 33 | 115 | 134 | 152 | 49 | 189 | 35 | 226 | 124 |
| 5 | 2 | 42 | 250 | 79 | 231 | 116 | 240 | 153 | 151 | 190 | 233 | 227 | 197 |
| 6 | 14 | 43 | 53 | 80 | 102 | 117 | 3 | 154 | 135 | 191 | 76 | 228 | 136 |
| 7 | 42 | 44 | 139 | 81 | 131 | 118 | 9 | 155 | 247 | 192 | 85 | 229 | 218 |
| 8 | 214 | 45 | 211 | 82 | 235 | 119 | 63 | 156 | 22 | 193 | 26 | 230 | 213 |
| 9 | 241 | 46 | 234 | 83 | 66 | 120 | 189 | 157 | 98 | 194 | 70 | 231 | 248 |
| 10 | 4 | 47 | 69 | 84 | 127 | 121 | 81 | 158 | 159 | 195 | 99 | 232 | 59 |
| 11 | 28 | 48 | 106 | 85 | 204 | 122 | 6 | 159 | 191 | 196 | 152 | 233 | 161 |
| 12 | 84 | 49 | 167 | 86 | 183 | 123 | 18 | 160 | 95 | 197 | 170 | 234 | 5 |
| 13 | 29 | 50 | 23 | 87 | 103 | 124 | 126 | 161 | 44 | 198 | 52 | 235 | 27 |
| 14 | 83 | 51 | 101 | 88 | 132 | 125 | 203 | 162 | 196 | 199 | 140 | 236 | 65 |
| 15 | 8 | 52 | 138 | 89 | 254 | 126 | 162 | 163 | 143 | 200 | 198 | 237 | 118 |
| 16 | 56 | 53 | 212 | 90 | 41 | 127 | 12 | 164 | 207 | 201 | 129 | 238 | 243 |
| 17 | 168 | 54 | 255 | 91 | 223 | 128 | 36 | 165 | 190 | 202 | 229 | 239 | 10 |
| 18 | 58 | 55 | 46 | 92 | 206 | 129 | 252 | 166 | 88 | 203 | 104 | 240 | 54 |
| 19 | 166 | 56 | 202 | 93 | 185 | 130 | 39 | 167 | 57 | 204 | 169 | 241 | 130 |
| 20 | 16 | 57 | 165 | 94 | 77 | 131 | 245 | 168 | 175 | 205 | 61 | 242 | 236 |
| 21 | 112 | 58 | 25 | 95 | 82 | 132 | 24 | 169 | 47 | 206 | 179 | 243 | 87 |
| 22 | 225 | 59 | 79 | 96 | 15 | 133 | 72 | 170 | 205 | 207 | 123 | 244 | 20 |
| 23 | 116 | 60 | 92 | 97 | 45 | 134 | 73 | 171 | 176 | 208 | 208 | 245 | 108 |
| 24 | 253 | 61 | 37 | 98 | 195 | 135 | 78 | 172 | 114 | 209 | 227 | 246 | 181 |
| 25 | 32 | 62 | 251 | 99 | 154 | 136 | 91 | 173 | 239 | 210 | 122 | 247 | 105 |
| 26 | 224 | 63 | 50 | 100 | 164 | 137 | 48 | 174 | 94 | 211 | 215 | 248 | 174 |
| 27 | 115 | 64 | 158 | 101 | 30 | 138 | 144 | 175 | 43 | 212 | 246 | 249 | 40 |
| 28 | 232 | 65 | 184 | 102 | 90 | 139 | 146 | 176 | 209 | 213 | 17 | 250 | 216 |
| 29 | 75 | 66 | 74 | 103 | 55 | 140 | 156 | 177 | 228 | 214 | 119 | 251 | 219 |
| 30 | 64 | 67 | 71 | 104 | 133 | 141 | 182 | 178 | 111 | 215 | 244 | 252 | 210 |
| 31 | 113 | 68 | 100 | 105 | 249 | 142 | 96 | 179 | 188 | 216 | 31 | 253 | 237 |
| 32 | 230 | 69 | 141 | 106 | 60 | 143 | 145 | 180 | 86 | 217 | 93 | 254 | 80 |
| 33 | 97 | 70 | 193 | 107 | 180 | 144 | 149 | 181 | 19 | 218 | 34 | * | 0 |
| 34 | 150 | 71 | 148 | 108 | 110 | 145 | 137 | 182 | 121 | 219 | 238 | | |
| 35 | 128 | 72 | 142 | 109 | 187 | 146 | 221 | 183 | 222 | 220 | 89 | | |
| 36 | 226 | 73 | 200 | 110 | 67 | 147 | 192 | 184 | 201 | 221 | 62 | | |

Logarithm table for $\mathrm{GF}(256)$ with irreducible polynomial 433 $(0\mathrm{x}1\mathrm{B}1)$

by Cody Planteen; https://codyplanteen.com/notes/rs; June 24, 2019

$$F(x) = x^8 + x^7 + x^5 + x^4 + 1, \ \alpha = x^2 + x + 1 = 7 \ = \ \mathrm{Ox07}$$

Example: $35 \cdot 36 = \alpha^{189} \alpha^{128} = \alpha^{317} = \alpha^{317 \mod 255} = \alpha^{62} = 251$

| α^{j} | j |
|--------------|-----|--------------|-----|--------------|-----|--------------|-----|--------------|-----|--------------|-----|--------------|-----|
| 0 | * | 37 | 61 | 74 | 66 | 111 | 178 | 148 | 71 | 185 | 93 | 222 | 183 |
| 1 | 0 | 38 | 186 | 75 | 29 | 112 | 21 | 149 | 144 | 186 | 222 | 223 | 91 |
| 2 | 5 | 39 | 130 | 76 | 191 | 113 | 31 | 150 | 34 | 187 | 109 | 224 | 26 |
| 3 | 117 | 40 | 249 | 77 | 94 | 114 | 172 | 151 | 153 | 188 | 179 | 225 | 22 |
| 4 | 10 | 41 | 90 | 78 | 135 | 115 | 27 | 152 | 196 | 189 | 120 | 226 | 36 |
| 5 | 234 | 42 | 7 | 79 | 59 | 116 | 23 | 153 | 76 | 190 | 165 | 227 | 209 |
| 6 | 122 | 43 | 175 | 80 | 254 | 117 | 41 | 154 | 99 | 191 | 159 | 228 | 177 |
| 7 | 1 | 44 | 161 | 81 | 121 | 118 | 237 | 155 | 149 | 192 | 147 | 229 | 202 |
| 8 | 15 | 45 | 97 | 82 | 95 | 119 | 214 | 156 | 140 | 193 | 70 | 230 | 32 |
| 9 | 118 | 46 | 55 | 83 | 14 | 120 | 111 | 157 | 39 | 194 | 38 | 231 | 79 |
| 10 | 239 | 47 | 169 | 84 | 12 | 121 | 182 | 158 | 64 | 195 | 98 | 232 | 28 |
| 11 | 151 | 48 | 137 | 85 | 192 | 122 | 210 | 159 | 158 | 196 | 162 | 233 | 190 |
| 12 | 127 | 49 | 152 | 86 | 180 | 123 | 207 | 160 | 4 | 197 | 227 | 234 | 46 |
| 13 | 188 | 50 | 63 | 87 | 243 | 124 | 226 | 161 | 233 | 198 | 200 | 235 | 82 |
| 14 | 6 | 51 | 75 | 88 | 166 | 125 | 37 | 162 | 126 | 199 | 114 | 236 | 242 |
| 15 | 96 | 52 | 198 | 89 | 220 | 126 | 124 | 163 | 150 | 200 | 73 | 237 | 253 |
| 16 | 20 | 53 | 43 | 90 | 102 | 127 | 84 | 164 | 100 | 201 | 184 | 238 | 219 |
| 17 | 213 | 54 | 240 | 91 | 136 | 128 | 35 | 165 | 57 | 202 | 56 | 239 | 173 |
| 18 | 123 | 55 | 103 | 92 | 60 | 129 | 201 | 166 | 19 | 203 | 125 | 240 | 116 |
| 19 | 181 | 56 | 16 | 93 | 217 | 130 | 241 | 167 | 49 | 204 | 85 | 241 | 9 |
| 20 | 244 | 57 | 167 | 94 | 174 | 131 | 81 | 168 | 17 | 205 | 170 | 242 | 187 |
| 21 | 2 | 58 | 18 | 95 | 160 | 132 | 88 | 169 | 204 | 206 | 92 | 243 | 238 |
| 22 | 156 | 59 | 232 | 96 | 142 | 133 | 104 | 170 | 197 | 207 | 164 | 244 | 215 |
| 23 | 50 | 60 | 106 | 97 | 33 | 134 | 115 | 171 | 74 | 208 | 208 | 245 | 131 |
| 24 | 132 | 61 | 205 | 98 | 157 | 135 | 154 | 172 | 185 | 209 | 176 | 246 | 212 |
| 25 | 58 | 62 | 221 | 99 | 195 | 136 | 228 | 173 | 77 | 210 | 252 | 247 | 155 |
| 26 | 193 | 63 | 119 | 100 | 68 | 137 | 145 | 174 | 248 | 211 | 45 | 248 | 231 |
| 27 | 235 | 64 | 30 | 101 | 51 | 138 | 52 | 175 | 168 | 212 | 53 | 249 | 105 |
| 28 | 11 | 65 | 236 | 102 | 80 | 139 | 44 | 176 | 171 | 213 | 230 | 250 | 42 |
| 29 | 13 | 66 | 83 | 103 | 87 | 140 | 199 | 177 | 40 | 214 | 8 | 251 | 62 |
| 30 | 101 | 67 | 110 | 104 | 203 | 141 | 69 | 178 | 225 | 215 | 211 | 252 | 129 |
| 31 | 216 | 68 | 223 | 105 | 247 | 142 | 72 | 179 | 206 | 216 | 250 | 253 | 24 |
| 32 | 25 | 69 | 47 | 106 | 48 | 143 | 163 | 180 | 107 | 217 | 112 | 254 | 89 |
| 33 | 78 | 70 | 194 | 107 | 3 | 144 | 138 | 181 | 246 | 218 | 229 | 255 | 54 |
| 34 | 218 | 71 | 67 | 108 | 245 | 145 | 143 | 182 | 141 | 219 | 251 | | |
| 35 | 189 | 72 | 133 | 109 | 224 | 146 | 139 | 183 | 86 | 220 | 113 | | |
| 36 | 128 | 73 | 134 | 110 | 108 | 147 | 148 | 184 | 65 | 221 | 146 | | |

Anti-logarithm table for $\mathrm{GF}(256)$ with irreducible polynomial 445 $(0\mathrm{x}1\mathrm{BD})$

by Cody Planteen; https://codyplanteen.com/notes/rs; June 24, 2019 $F(x)=x^8+x^7+x^5+x^4+x^3+x^2+1,\,\alpha=x^2+x+1$ = 7 = 0x07

| \overline{j} | α^{j} | j | α^j | j | α^j | j | α^{j} | j | α^{j} | j | | α^{j} | j | α^{j} |
|----------------|--------------|----|------------|-----|------------|-----|--------------|-----|--------------|---|----|--------------|-----|--------------|
| 0 | 1 | 37 | 43 | 74 | 118 | 111 | 2 | 148 | 86 | | 85 | 236 | 222 | 4 |
| 1 | 7 | 38 | 209 | 75 | 255 | 112 | 14 | 149 | 31 | | 86 | 67 | 223 | 28 |
| 2 | 21 | 39 | 240 | 76 | 58 | 113 | 42 | 150 | 93 | | 87 | 116 | 224 | 84 |
| 3 | 107 | 40 | 23 | 77 | 166 | 114 | 214 | 151 | 46 | | 88 | 241 | 225 | 17 |
| 4 | 172 | 41 | 101 | 78 | 8 | 115 | 229 | 152 | 202 | 1 | 89 | 16 | 226 | 119 |
| 5 | 62 | 42 | 134 | 79 | 56 | 116 | 124 | 153 | 177 | 1 | 90 | 112 | 227 | 248 |
| 6 | 186 | 43 | 232 | 80 | 168 | 117 | 201 | 154 | 109 | 1 | 91 | 237 | 228 | 47 |
| 7 | 92 | 44 | 95 | 81 | 34 | 118 | 184 | 155 | 190 | 1 | 92 | 68 | 229 | 205 |
| 8 | 41 | 45 | 32 | 82 | 238 | 119 | 82 | 156 | 64 | 1 | 93 | 97 | 230 | 164 |
| 9 | 223 | 46 | 224 | 83 | 77 | 120 | 3 | 157 | 125 | 1 | 94 | 154 | 231 | 6 |
| 10 | 218 | 47 | 103 | 84 | 94 | 121 | 9 | 158 | 206 | 1 | 95 | 188 | 232 | 18 |
| 11 | 193 | 48 | 136 | 85 | 39 | 122 | 63 | 159 | 173 | 1 | 96 | 78 | 233 | 126 |
| 12 | 128 | 49 | 194 | 86 | 245 | 123 | 189 | 160 | 57 | 1 | 97 | 87 | 234 | 199 |
| 13 | 250 | 50 | 137 | 87 | 12 | 124 | 73 | 161 | 175 | 1 | 98 | 24 | 235 | 146 |
| 14 | 33 | 51 | 197 | 88 | 36 | 125 | 66 | 162 | 55 | 1 | 99 | 72 | 236 | 132 |
| 15 | 231 | 52 | 156 | 89 | 252 | 126 | 115 | 163 | 133 | 2 | 00 | 69 | 237 | 230 |
| 16 | 114 | 53 | 174 | 90 | 51 | 127 | 228 | 164 | 225 | | 01 | 102 | 238 | 117 |
| 17 | 227 | 54 | 48 | 91 | 153 | 128 | 123 | 165 | 96 | | 02 | 143 | 239 | 246 |
| 18 | 110 | 55 | 144 | 92 | 181 | 129 | 220 | 166 | 157 | 2 | 03 | 215 | 240 | 5 |
| 19 | 183 | 56 | 138 | 93 | 113 | 130 | 211 | 167 | 169 | | 04 | 226 | 241 | 27 |
| 20 | 127 | 57 | 204 | 94 | 234 | 131 | 254 | 168 | 37 | | 05 | 105 | 242 | 65 |
| 21 | 192 | 58 | 163 | 95 | 81 | 132 | 61 | 169 | 251 | | 06 | 162 | 243 | 122 |
| 22 | 135 | 59 | 19 | 96 | 10 | 133 | 179 | 170 | 38 | | 07 | 20 | 244 | 219 |
| 23 | 239 | 60 | 121 | 97 | 54 | 134 | 99 | 171 | 242 | | 08 | 108 | 245 | 198 |
| 24 | 74 | 61 | 210 | 98 | 130 | 135 | 148 | 172 | 25 | | 09 | 185 | 246 | 149 |
| 25 | 75 | 62 | 249 | 99 | 244 | 136 | 150 | 173 | 79 | | 10 | 85 | 247 | 145 |
| 26 | 76 | 63 | 40 | 100 | 11 | 137 | 152 | 174 | 80 | | 11 | 22 | 248 | 141 |
| 27 | 89 | 64 | 216 | 101 | 49 | 138 | 178 | 175 | 13 | | 12 | 98 | 249 | 217 |
| 28 | 50 | 65 | 207 | 102 | 151 | 139 | 100 | 176 | 35 | | 13 | 147 | 250 | 200 |
| 29 | 158 | 66 | 170 | 103 | 159 | 140 | 129 | 177 | 233 | | 14 | 131 | 251 | 191 |
| 30 | 160 | 67 | 44 | 104 | 167 | 141 | 253 | 178 | 88 | | 15 | 243 | 252 | 71 |
| 31 | 26 | 68 | 196 | 105 | 15 | 142 | 52 | 179 | 53 | | 16 | 30 | 253 | 104 |
| 32 | 70 | 69 | 155 | 106 | 45 | 143 | 140 | 180 | 139 | | 17 | 90 | 254 | 165 |
| 33 | 111 | 70 | 187 | 107 | 195 | 144 | 222 | 181 | 203 | | 18 | 59 | * | 0 |
| 34 | 176 | 71 | 91 | 108 | 142 | 145 | 221 | 182 | 182 | | 19 | 161 | | |
| 35 | 106 | 72 | 60 | 109 | 208 | 146 | 212 | 183 | 120 | | 20 | 29 | | |
| 36 | 171 | 73 | 180 | 110 | 247 | 147 | 235 | 184 | 213 | 2 | 21 | 83 | | |

Logarithm table for GF(256) with irreducible polynomial 445 (0x1BD)

by Cody Planteen; https://codyplanteen.com/notes/rs; June 24, 2019

$$F(x) = x^8 + x^7 + x^5 + x^4 + x^3 + x^2 + 1, \ \alpha = x^2 + x + 1 = 7 = 0 \text{x07}$$

Example: $35 \cdot 36 = \alpha^{176} \alpha^{88} = \alpha^{264} = \alpha^{264 \mod 255} = \alpha^9 = 223$

| ${\alpha^j}$ | j | α^{j} | j |
|--------------|-----|--------------|-----|--------------|-----|--------------|-----|--------------|-----|--------------|-----|--------------|-----|
| 0 | * | 37 | 168 | 74 | 24 | 111 | 33 | 148 | 135 | 185 | 209 | 222 | 144 |
| 1 | 0 | 38 | 170 | 75 | 25 | 112 | 190 | 149 | 246 | 186 | 6 | 223 | 9 |
| 2 | 111 | 39 | 85 | 76 | 26 | 113 | 93 | 150 | 136 | 187 | 70 | 224 | 46 |
| 3 | 120 | 40 | 63 | 77 | 83 | 114 | 16 | 151 | 102 | 188 | 195 | 225 | 164 |
| 4 | 222 | 41 | 8 | 78 | 196 | 115 | 126 | 152 | 137 | 189 | 123 | 226 | 204 |
| 5 | 240 | 42 | 113 | 79 | 173 | 116 | 187 | 153 | 91 | 190 | 155 | 227 | 17 |
| 6 | 231 | 43 | 37 | 80 | 174 | 117 | 238 | 154 | 194 | 191 | 251 | 228 | 127 |
| 7 | 1 | 44 | 67 | 81 | 95 | 118 | 74 | 155 | 69 | 192 | 21 | 229 | 115 |
| 8 | 78 | 45 | 106 | 82 | 119 | 119 | 226 | 156 | 52 | 193 | 11 | 230 | 237 |
| 9 | 121 | 46 | 151 | 83 | 221 | 120 | 183 | 157 | 166 | 194 | 49 | 231 | 15 |
| 10 | 96 | 47 | 228 | 84 | 224 | 121 | 60 | 158 | 29 | 195 | 107 | 232 | 43 |
| 11 | 100 | 48 | 54 | 85 | 210 | 122 | 243 | 159 | 103 | 196 | 68 | 233 | 177 |
| 12 | 87 | 49 | 101 | 86 | 148 | 123 | 128 | 160 | 30 | 197 | 51 | 234 | 94 |
| 13 | 175 | 50 | 28 | 87 | 197 | 124 | 116 | 161 | 219 | 198 | 245 | 235 | 147 |
| 14 | 112 | 51 | 90 | 88 | 178 | 125 | 157 | 162 | 206 | 199 | 234 | 236 | 185 |
| 15 | 105 | 52 | 142 | 89 | 27 | 126 | 233 | 163 | 58 | 200 | 250 | 237 | 191 |
| 16 | 189 | 53 | 179 | 90 | 217 | 127 | 20 | 164 | 230 | 201 | 117 | 238 | 82 |
| 17 | 225 | 54 | 97 | 91 | 71 | 128 | 12 | 165 | 254 | 202 | 152 | 239 | 23 |
| 18 | 232 | 55 | 162 | 92 | 7 | 129 | 140 | 166 | 77 | 203 | 181 | 240 | 39 |
| 19 | 59 | 56 | 79 | 93 | 150 | 130 | 98 | 167 | 104 | 204 | 57 | 241 | 188 |
| 20 | 207 | 57 | 160 | 94 | 84 | 131 | 214 | 168 | 80 | 205 | 229 | 242 | 171 |
| 21 | 2 | 58 | 76 | 95 | 44 | 132 | 236 | 169 | 167 | 206 | 158 | 243 | 215 |
| 22 | 211 | 59 | 218 | 96 | 165 | 133 | 163 | 170 | 66 | 207 | 65 | 244 | 99 |
| 23 | 40 | 60 | 72 | 97 | 193 | 134 | 42 | 171 | 36 | 208 | 109 | 245 | 86 |
| 24 | 198 | 61 | 132 | 98 | 212 | 135 | 22 | 172 | 4 | 209 | 38 | 246 | 239 |
| 25 | 172 | 62 | 5 | 99 | 134 | 136 | 48 | 173 | 159 | 210 | 61 | 247 | 110 |
| 26 | 31 | 63 | 122 | 100 | 139 | 137 | 50 | 174 | 53 | 211 | 130 | 248 | 227 |
| 27 | 241 | 64 | 156 | 101 | 41 | 138 | 56 | 175 | 161 | 212 | 146 | 249 | 62 |
| 28 | 223 | 65 | 242 | 102 | 201 | 139 | 180 | 176 | 34 | 213 | 184 | 250 | 13 |
| 29 | 220 | 66 | 125 | 103 | 47 | 140 | 143 | 177 | 153 | 214 | 114 | 251 | 169 |
| 30 | 216 | 67 | 186 | 104 | 253 | 141 | 248 | 178 | 138 | 215 | 203 | 252 | 89 |
| 31 | 149 | 68 | 192 | 105 | 205 | 142 | 108 | 179 | 133 | 216 | 64 | 253 | 141 |
| 32 | 45 | 69 | 200 | 106 | 35 | 143 | 202 | 180 | 73 | 217 | 249 | 254 | 131 |
| 33 | 14 | 70 | 32 | 107 | 3 | 144 | 55 | 181 | 92 | 218 | 10 | 255 | 75 |
| 34 | 81 | 71 | 252 | 108 | 208 | 145 | 247 | 182 | 182 | 219 | 244 | | |
| 35 | 176 | 72 | 199 | 109 | 154 | 146 | 235 | 183 | 19 | 220 | 129 | | |
| 36 | 88 | 73 | 124 | 110 | 18 | 147 | 213 | 184 | 118 | 221 | 145 | | |

Anti-logarithm table for $\mathrm{GF}(256)$ with primitive, irreducible polynomial $451~(0\mathrm{x}1\mathrm{C}3)$

by Cody Planteen; https://codyplanteen.com/notes/rs; June 24, 2019

 $F(x) = x^8 + x^7 + x^6 + x + 1, \, \alpha = x + 0 = \text{ 2 = 0x02}$

| j | α^j | j | α^j | j | α^j | j | α^j | j | α^{j} | j | α^j | j | α^{j} |
|----|------------|----|------------|-----|------------|-----|------------|----------|--------------|-----|------------|-----|--------------|
| 0 | 1 | 37 | 232 | 74 | 208 | 111 | 247 | 148 | 3 217 | 185 | 83 | 222 | 70 |
| 1 | 2 | 38 | 19 | 75 | 99 | 112 | 45 | 149 | 113 | 186 | 166 | 223 | 140 |
| 2 | 4 | 39 | 38 | 76 | 198 | 113 | 90 | 150 | 226 | 187 | 143 | 224 | 219 |
| 3 | 8 | 40 | 76 | 77 | 79 | 114 | 180 | 15 | 7 | 188 | 221 | 225 | 117 |
| 4 | 16 | 41 | 152 | 78 | 158 | 115 | 171 | 155 | 2 14 | 189 | 121 | 226 | 234 |
| 5 | 32 | 42 | 243 | 79 | 255 | 116 | 149 | 153 | 3 28 | 190 | 242 | 227 | 23 |
| 6 | 64 | 43 | 37 | 80 | 61 | 117 | 233 | 15^{2} | 1 56 | 191 | 39 | 228 | 46 |
| 7 | 128 | 44 | 74 | 81 | 122 | 118 | 17 | 158 | 5 112 | 192 | 78 | 229 | 92 |
| 8 | 195 | 45 | 148 | 82 | 244 | 119 | 34 | 150 | 5 224 | 193 | 156 | 230 | 184 |
| 9 | 69 | 46 | 235 | 83 | 43 | 120 | 68 | 15' | 7 3 | 194 | 251 | 231 | 179 |
| 10 | 138 | 47 | 21 | 84 | 86 | 121 | 136 | 158 | 8 6 | 195 | 53 | 232 | 165 |
| 11 | 215 | 48 | 42 | 85 | 172 | 122 | 211 | 159 | 12 | 196 | 106 | 233 | 137 |
| 12 | 109 | 49 | 84 | 86 | 155 | 123 | 101 | 160 | 24 | 197 | 212 | 234 | 209 |
| 13 | 218 | 50 | 168 | 87 | 245 | 124 | 202 | 16 | 48 | 198 | 107 | 235 | 97 |
| 14 | 119 | 51 | 147 | 88 | 41 | 125 | 87 | 165 | 96 | 199 | 214 | 236 | 194 |
| 15 | 238 | 52 | 229 | 89 | 82 | 126 | 174 | 163 | 3 192 | 200 | 111 | 237 | 71 |
| 16 | 31 | 53 | 9 | 90 | 164 | 127 | 159 | 16^{2} | 4 67 | 201 | 222 | 238 | 142 |
| 17 | 62 | 54 | 18 | 91 | 139 | 128 | 253 | 16 | 5 134 | 202 | 127 | 239 | 223 |
| 18 | 124 | 55 | 36 | 92 | 213 | 129 | 57 | 160 | 5 - 207 | 203 | 254 | 240 | 125 |
| 19 | 248 | 56 | 72 | 93 | 105 | 130 | 114 | 16' | 7 93 | 204 | 63 | 241 | 250 |
| 20 | 51 | 57 | 144 | 94 | 210 | 131 | 228 | 168 | 3 186 | 205 | 126 | 242 | 55 |
| 21 | 102 | 58 | 227 | 95 | 103 | 132 | 11 | 169 | 183 | 206 | 252 | 243 | 110 |
| 22 | 204 | 59 | 5 | 96 | 206 | 133 | 22 | 170 | 173 | 207 | 59 | 244 | 220 |
| 23 | 91 | 60 | 10 | 97 | 95 | 134 | 44 | 17 | 153 | 208 | 118 | 245 | 123 |
| 24 | 182 | 61 | 20 | 98 | 190 | 135 | 88 | 175 | 2 241 | 209 | 236 | 246 | 246 |
| 25 | 175 | 62 | 40 | 99 | 191 | 136 | 176 | 173 | 33 | 210 | 27 | 247 | 47 |
| 26 | 157 | 63 | 80 | 100 | 189 | 137 | 163 | 174 | 1 66 | 211 | 54 | 248 | 94 |
| 27 | 249 | 64 | 160 | 101 | 185 | 138 | 133 | 175 | 5 132 | 212 | 108 | 249 | 188 |
| 28 | 49 | 65 | 131 | 102 | 177 | 139 | 201 | 176 | 5 203 | 213 | 216 | 250 | 187 |
| 29 | 98 | 66 | 197 | 103 | 161 | 140 | 81 | 17' | 7 85 | 214 | 115 | 251 | 181 |
| 30 | 196 | 67 | 73 | 104 | 129 | 141 | 162 | 178 | 3 170 | 215 | 230 | 252 | 169 |
| 31 | 75 | 68 | 146 | 105 | 193 | 142 | 135 | 179 | 151 | 216 | 15 | 253 | 145 |
| 32 | 150 | 69 | 231 | 106 | 65 | 143 | 205 | 180 | 237 | 217 | 30 | 254 | 225 |
| 33 | 239 | 70 | 13 | 107 | 130 | 144 | 89 | 183 | 25 | 218 | 60 | * | 0 |
| 34 | 29 | 71 | 26 | 108 | 199 | 145 | 178 | 183 | 2 50 | 219 | 120 | | |
| 35 | 58 | 72 | 52 | 109 | 77 | 146 | 167 | 183 | 3 100 | 220 | 240 | | |
| 36 | 116 | 73 | 104 | 110 | 154 | 147 | 141 | 184 | 1 200 | 221 | 35 | | |

Logarithm table for GF(256) with primitive, irreducible polynomial 451 (0x1C3)

by Cody Planteen; https://codyplanteen.com/notes/rs; June 24, 2019

$$F(x) = x^8 + x^7 + x^6 + x + 1, \, \alpha = x + 0 = {\rm 2 = 0x02}$$

Example: $35 \cdot 36 = \alpha^{221} \alpha^{55} = \alpha^{276} = \alpha^{276 \mod 255} = \alpha^{21} = 102$

| $\overline{\alpha^j}$ | j | α^{j} | j |
|-----------------------|-----|--------------|-----|--------------|-----|--------------|-----|--------------|-----|--------------|-----|--------------|-----|
| 0 | * | 37 | 43 | 74 | 44 | 111 | 200 | 148 | 45 | 185 | 101 | 222 | 201 |
| 1 | 0 | 38 | 39 | 75 | 31 | 112 | 155 | 149 | 116 | 186 | 168 | 223 | 239 |
| 2 | 1 | 39 | 191 | 76 | 40 | 113 | 149 | 150 | 32 | 187 | 250 | 224 | 156 |
| 3 | 157 | 40 | 62 | 77 | 109 | 114 | 130 | 151 | 179 | 188 | 249 | 225 | 254 |
| 4 | 2 | 41 | 88 | 78 | 192 | 115 | 214 | 152 | 41 | 189 | 100 | 226 | 150 |
| 5 | 59 | 42 | 48 | 79 | 77 | 116 | 36 | 153 | 171 | 190 | 98 | 227 | 58 |
| 6 | 158 | 43 | 83 | 80 | 63 | 117 | 225 | 154 | 110 | 191 | 99 | 228 | 131 |
| 7 | 151 | 44 | 134 | 81 | 140 | 118 | 208 | 155 | 86 | 192 | 163 | 229 | 52 |
| 8 | 3 | 45 | 112 | 82 | 89 | 119 | 14 | 156 | 193 | 193 | 105 | 230 | 215 |
| 9 | 53 | 46 | 228 | 83 | 185 | 120 | 219 | 157 | 26 | 194 | 236 | 231 | 69 |
| 10 | 60 | 47 | 247 | 84 | 49 | 121 | 189 | 158 | 78 | 195 | 8 | 232 | 37 |
| 11 | 132 | 48 | 161 | 85 | 177 | 122 | 81 | 159 | 127 | 196 | 30 | 233 | 117 |
| 12 | 159 | 49 | 28 | 86 | 84 | 123 | 245 | 160 | 64 | 197 | 66 | 234 | 226 |
| 13 | 70 | 50 | 182 | 87 | 125 | 124 | 18 | 161 | 103 | 198 | 76 | 235 | 46 |
| 14 | 152 | 51 | 20 | 88 | 135 | 125 | 240 | 162 | 141 | 199 | 108 | 236 | 209 |
| 15 | 216 | 52 | 72 | 89 | 144 | 126 | 205 | 163 | 137 | 200 | 184 | 237 | 180 |
| 16 | 4 | 53 | 195 | 90 | 113 | 127 | 202 | 164 | 90 | 201 | 139 | 238 | 15 |
| 17 | 118 | 54 | 211 | 91 | 23 | 128 | 7 | 165 | 232 | 202 | 124 | 239 | 33 |
| 18 | 54 | 55 | 242 | 92 | 229 | 129 | 104 | 166 | 186 | 203 | 176 | 240 | 220 |
| 19 | 38 | 56 | 154 | 93 | 167 | 130 | 107 | 167 | 146 | 204 | 22 | 241 | 172 |
| 20 | 61 | 57 | 129 | 94 | 248 | 131 | 65 | 168 | 50 | 205 | 143 | 242 | 190 |
| 21 | 47 | 58 | 35 | 95 | 97 | 132 | 175 | 169 | 252 | 206 | 96 | 243 | 42 |
| 22 | 133 | 59 | 207 | 96 | 162 | 133 | 138 | 170 | 178 | 207 | 166 | 244 | 82 |
| 23 | 227 | 60 | 218 | 97 | 235 | 134 | 165 | 171 | 115 | 208 | 74 | 245 | 87 |
| 24 | 160 | 61 | 80 | 98 | 29 | 135 | 142 | 172 | 85 | 209 | 234 | 246 | 246 |
| 25 | 181 | 62 | 17 | 99 | 75 | 136 | 121 | 173 | 170 | 210 | 94 | 247 | 111 |
| 26 | 71 | 63 | 204 | 100 | 183 | 137 | 233 | 174 | 126 | 211 | 122 | 248 | 19 |
| 27 | 210 | 64 | 6 | 101 | 123 | 138 | 10 | 175 | 25 | 212 | 197 | 249 | 27 |
| 28 | 153 | 65 | 106 | 102 | 21 | 139 | 91 | 176 | 136 | 213 | 92 | 250 | 241 |
| 29 | 34 | 66 | 174 | 103 | 95 | 140 | 223 | 177 | 102 | 214 | 199 | 251 | 194 |
| 30 | 217 | 67 | 164 | 104 | 73 | 141 | 147 | 178 | 145 | 215 | 11 | 252 | 206 |
| 31 | 16 | 68 | 120 | 105 | 93 | 142 | 238 | 179 | 231 | 216 | 213 | 253 | 128 |
| 32 | 5 | 69 | 9 | 106 | 196 | 143 | 187 | 180 | 114 | 217 | 148 | 254 | 203 |
| 33 | 173 | 70 | 222 | 107 | 198 | 144 | 57 | 181 | 251 | 218 | 13 | 255 | 79 |
| 34 | 119 | 71 | 237 | 108 | 212 | 145 | 253 | 182 | 24 | 219 | 224 | | |
| 35 | 221 | 72 | 56 | 109 | 12 | 146 | 68 | 183 | 169 | 220 | 244 | | |
| 36 | 55 | 73 | 67 | 110 | 243 | 147 | 51 | 184 | 230 | 221 | 188 | | |

Anti-logarithm table for $\mathrm{GF}(256)$ with primitive, irreducible polynomial $463~(0\mathrm{x}1\mathrm{CF})$

by Cody Planteen; https://codyplanteen.com/notes/rs; June 24, 2019

 $F(x) = x^8 + x^7 + x^6 + x^3 + x^2 + x + 1, \ \alpha = x + 0 = \text{2 = 0x02}$

| \overline{j} | α^j | j | α^j | j | α^{j} | j | α^{j} | j | α^{j} | j | α^j | j | α^{j} |
|----------------|------------|----|------------|-----|--------------|-----|--------------|----|--------------|-----|------------|-----|--------------|
| 0 | 1 | 37 | 123 | 74 | 241 | 111 | 131 | 14 | 8 79 | 185 | 137 | 222 | 255 |
| 1 | 2 | 38 | 246 | 75 | 45 | 112 | 201 | 14 | 9 158 | 186 | 221 | 223 | 49 |
| 2 | 4 | 39 | 35 | 76 | 90 | 113 | 93 | 15 | 243 | 187 | 117 | 224 | 98 |
| 3 | 8 | 40 | 70 | 77 | 180 | 114 | 186 | 15 | 1 41 | 188 | 234 | 225 | 196 |
| 4 | 16 | 41 | 140 | 78 | 167 | 115 | 187 | 15 | 2 82 | 189 | 27 | 226 | 71 |
| 5 | 32 | 42 | 215 | 79 | 129 | 116 | 185 | 15 | 3 164 | 190 | 54 | 227 | 142 |
| 6 | 64 | 43 | 97 | 80 | 205 | 117 | 189 | 15 | 4 135 | 191 | 108 | 228 | 211 |
| 7 | 128 | 44 | 194 | 81 | 85 | 118 | 181 | 15 | 5 193 | 192 | 216 | 229 | 105 |
| 8 | 207 | 45 | 75 | 82 | 170 | 119 | 165 | 15 | 677 | 193 | 127 | 230 | 210 |
| 9 | 81 | 46 | 150 | 83 | 155 | 120 | 133 | 15 | 7 154 | 194 | 254 | 231 | 107 |
| 10 | 162 | 47 | 227 | 84 | 249 | 121 | 197 | 15 | 8 251 | 195 | 51 | 232 | 214 |
| 11 | 139 | 48 | 9 | 85 | 61 | 122 | 69 | 15 | 9 - 57 | 196 | 102 | 233 | 99 |
| 12 | 217 | 49 | 18 | 86 | 122 | 123 | 138 | 16 | | | 204 | 234 | 198 |
| 13 | 125 | 50 | 36 | 87 | 244 | 124 | 219 | 16 | | 198 | 87 | 235 | 67 |
| 14 | 250 | 51 | 72 | 88 | 39 | 125 | 121 | 16 | 2 7 | 199 | 174 | 236 | 134 |
| 15 | 59 | 52 | 144 | 89 | 78 | 126 | 242 | 16 | 3 14 | 200 | 147 | 237 | 195 |
| 16 | 118 | 53 | 239 | 90 | 156 | 127 | 43 | 16 | 4 28 | 201 | 233 | 238 | 73 |
| 17 | 236 | 54 | 17 | 91 | 247 | 128 | 86 | 16 | 5 56 | 202 | 29 | 239 | 146 |
| 18 | 23 | 55 | 34 | 92 | 33 | 129 | 172 | 16 | 3 112 | 203 | 58 | 240 | 235 |
| 19 | 46 | 56 | 68 | 93 | 66 | 130 | 151 | 16 | 7 224 | 204 | 116 | 241 | 25 |
| 20 | 92 | 57 | 136 | 94 | 132 | 131 | 225 | 16 | 8 15 | 205 | 232 | 242 | 50 |
| 21 | 184 | 58 | 223 | 95 | 199 | 132 | 13 | 16 | 9 30 | 206 | 31 | 243 | 100 |
| 22 | 191 | 59 | 113 | 96 | 65 | 133 | 26 | 17 | 0 60 | 207 | 62 | 244 | 200 |
| 23 | 177 | 60 | 226 | 97 | 130 | 134 | 52 | 17 | 1 120 | 208 | 124 | 245 | 95 |
| 24 | 173 | 61 | 11 | 98 | 203 | 135 | 104 | 17 | | | 248 | 246 | 190 |
| 25 | 149 | 62 | 22 | 99 | 89 | 136 | 208 | 17 | | 210 | 63 | 247 | 179 |
| 26 | 229 | 63 | 44 | 100 | 178 | 137 | 111 | 17 | | 211 | 126 | 248 | 169 |
| 27 | 5 | 64 | 88 | 101 | 171 | 138 | 222 | 17 | | | 252 | 249 | 157 |
| 28 | 10 | 65 | 176 | 102 | 153 | 139 | 115 | 17 | | | 55 | 250 | 245 |
| 29 | 20 | 66 | 175 | 103 | 253 | 140 | 230 | 17 | | | 110 | 251 | 37 |
| 30 | 40 | 67 | 145 | 104 | 53 | 141 | 3 | 17 | | | 220 | 252 | 74 |
| 31 | 80 | 68 | 237 | 105 | 106 | 142 | 6 | 17 | | | 119 | 253 | 148 |
| 32 | 160 | 69 | 21 | 106 | 212 | 143 | 12 | 18 | 0 101 | 217 | 238 | 254 | 231 |
| 33 | 143 | 70 | 42 | 107 | 103 | 144 | 24 | 18 | 1 202 | 218 | 19 | * | 0 |
| 34 | 209 | 71 | 84 | 108 | 206 | 145 | 48 | 18 | | 219 | 38 | | |
| 35 | 109 | 72 | 168 | 109 | 83 | 146 | 96 | 18 | | | 76 | | |
| 36 | 218 | 73 | 159 | 110 | 166 | 147 | 192 | 18 | 4 163 | 221 | 152 | | |

Logarithm table for GF(256) with primitive, irreducible polynomial 463 (0x1CF)

by Cody Planteen; https://codyplanteen.com/notes/rs; June 24, 2019

$$F(x) = x^8 + x^7 + x^6 + x^3 + x^2 + x + 1, \ \alpha = x + 0 = 2 = 0 \text{x02}$$

Example: $35 \cdot 36 = \alpha^{39} \alpha^{50} = \alpha^{89} = 78$

| $\overline{\alpha^j}$ | j | α^{j} | j |
|-----------------------|-----|--------------|-----|--------------|-----|--------------|-----|--------------|-----|--------------|-----|--------------|-----|
| 0 | * | 37 | 251 | 74 | 252 | 111 | 137 | 148 | 253 | 185 | 116 | 222 | 138 |
| 1 | 0 | 38 | 219 | 75 | 45 | 112 | 166 | 149 | 25 | 186 | 114 | 223 | 58 |
| 2 | 1 | 39 | 88 | 76 | 220 | 113 | 59 | 150 | 46 | 187 | 115 | 224 | 167 |
| 3 | 141 | 40 | 30 | 77 | 156 | 114 | 160 | 151 | 130 | 188 | 175 | 225 | 131 |
| 4 | 2 | 41 | 151 | 78 | 89 | 115 | 139 | 152 | 221 | 189 | 117 | 226 | 60 |
| 5 | 27 | 42 | 70 | 79 | 148 | 116 | 204 | 153 | 102 | 190 | 246 | 227 | 47 |
| 6 | 142 | 43 | 127 | 80 | 31 | 117 | 187 | 154 | 157 | 191 | 22 | 228 | 161 |
| 7 | 162 | 44 | 63 | 81 | 9 | 118 | 16 | 155 | 83 | 192 | 147 | 229 | 26 |
| 8 | 3 | 45 | 75 | 82 | 152 | 119 | 216 | 156 | 90 | 193 | 155 | 230 | 140 |
| 9 | 48 | 46 | 19 | 83 | 109 | 120 | 171 | 157 | 249 | 194 | 44 | 231 | 254 |
| 10 | 28 | 47 | 173 | 84 | 71 | 121 | 125 | 158 | 149 | 195 | 237 | 232 | 205 |
| 11 | 61 | 48 | 145 | 85 | 81 | 122 | 86 | 159 | 73 | 196 | 225 | 233 | 201 |
| 12 | 143 | 49 | 223 | 86 | 128 | 123 | 37 | 160 | 32 | 197 | 121 | 234 | 188 |
| 13 | 132 | 50 | 242 | 87 | 198 | 124 | 208 | 161 | 177 | 198 | 234 | 235 | 240 |
| 14 | 163 | 51 | 195 | 88 | 64 | 125 | 13 | 162 | 10 | 199 | 95 | 236 | 17 |
| 15 | 168 | 52 | 134 | 89 | 99 | 126 | 211 | 163 | 184 | 200 | 244 | 237 | 68 |
| 16 | 4 | 53 | 104 | 90 | 76 | 127 | 193 | 164 | 153 | 201 | 112 | 238 | 217 |
| 17 | 54 | 54 | 190 | 91 | 182 | 128 | 7 | 165 | 119 | 202 | 181 | 239 | 53 |
| 18 | 49 | 55 | 213 | 92 | 20 | 129 | 79 | 166 | 110 | 203 | 98 | 240 | 172 |
| 19 | 218 | 56 | 165 | 93 | 113 | 130 | 97 | 167 | 78 | 204 | 197 | 241 | 74 |
| 20 | 29 | 57 | 159 | 94 | 174 | 131 | 111 | 168 | 72 | 205 | 80 | 242 | 126 |
| 21 | 69 | 58 | 203 | 95 | 245 | 132 | 94 | 169 | 248 | 206 | 108 | 243 | 150 |
| 22 | 62 | 59 | 15 | 96 | 146 | 133 | 120 | 170 | 82 | 207 | 8 | 244 | 87 |
| 23 | 18 | 60 | 170 | 97 | 43 | 134 | 236 | 171 | 101 | 208 | 136 | 245 | 250 |
| 24 | 144 | 61 | 85 | 98 | 224 | 135 | 154 | 172 | 129 | 209 | 34 | 246 | 38 |
| 25 | 241 | 62 | 207 | 99 | 233 | 136 | 57 | 173 | 24 | 210 | 230 | 247 | 91 |
| 26 | 133 | 63 | 210 | 100 | 243 | 137 | 185 | 174 | 199 | 211 | 228 | 248 | 209 |
| 27 | 189 | 64 | 6 | 101 | 180 | 138 | 123 | 175 | 66 | 212 | 106 | 249 | 84 |
| 28 | 164 | 65 | 96 | 102 | 196 | 139 | 11 | 176 | 65 | 213 | 179 | 250 | 14 |
| 29 | 202 | 66 | 93 | 103 | 107 | 140 | 41 | 177 | 23 | 214 | 232 | 251 | 158 |
| 30 | 169 | 67 | 235 | 104 | 135 | 141 | 178 | 178 | 100 | 215 | 42 | 252 | 212 |
| 31 | 206 | 68 | 56 | 105 | 229 | 142 | 227 | 179 | 247 | 216 | 192 | 253 | 103 |
| 32 | 5 | 69 | 122 | 106 | 105 | 143 | 33 | 180 | 77 | 217 | 12 | 254 | 194 |
| 33 | 92 | 70 | 40 | 107 | 231 | 144 | 52 | 181 | 118 | 218 | 36 | 255 | 222 |
| 34 | 55 | 71 | 226 | 108 | 191 | 145 | 67 | 182 | 183 | 219 | 124 | | |
| 35 | 39 | 72 | 51 | 109 | 35 | 146 | 239 | 183 | 176 | 220 | 215 | | |
| 36 | 50 | 73 | 238 | 110 | 214 | 147 | 200 | 184 | 21 | 221 | 186 | | |

Anti-logarithm table for $\mathrm{GF}(256)$ with irreducible polynomial 471 $(0\mathrm{x}1\mathrm{D}7)$

by Cody Planteen; https://codyplanteen.com/notes/rs; June 24, 2019 $F(x)=x^8+x^7+x^6+x^4+x^2+x+1,\,\alpha=x^2+x+1$ = 7 = 0x07

| \overline{j} | α^{j} | j | α^{j} | j | α^{j} | j | α^{j} | j | | χ^j | j | α^{j} | j | α^{j} |
|----------------|--------------------|-----------------|------------------|----------|------------------|--------------|--------------|----------|-----|----------|------------|--------------|-------------------|--------------|
| $\frac{J}{0}$ | $\frac{\alpha}{1}$ | | | | | | 3 | | | | | | $\frac{J}{222}$ | |
| 0 1 | 1 7 | $\frac{37}{38}$ | $\frac{62}{186}$ | 74 75 | 113 128 | 111 112 | 3 9 | 14 14 | | 66 25 | 185 186 | 147 87 | $\frac{222}{223}$ | |
| 2 | 7 21 | 39 | 136 | 76 | 46 | 112 | 9 63 | 14 15 | | 9 | 187 | 114 | 223 224 | |
| $\frac{2}{3}$ | 107 | 39 40 | $\frac{130}{22}$ | 76 77 | $\frac{40}{202}$ | 113 114 | 03 189 | 15 15 | | 9 8 | 188 | $114 \\ 137$ | $\frac{224}{225}$ | |
| | 198 | 40 | | | | $114 \\ 115$ | | | | .66 | 189 | 137 17 | $\frac{220}{226}$ | |
| 4 | | | 98 | 78 70 | 15 45 | | 157 | 15 | | | | | | |
| 5 c | 43 | 42 | 249 | 79 | 45 | 116 | 125 | 15 | | 20 | 190 | 119 | 227 | |
| 6 | 209 | 43 | 150 | 80 | 195 | 117 | 164 | 15 | | .09 | 191 | 146 | 228 | |
| 7 | 78 | 44 | 76 | 81 | 48 | 118 | 210 | 15 | | 12 | 192 | 80 | 229 | |
| 8 | 61 | 45 | 51 | 82 | 144 | 119 | 71 | 15 | | 55 | 193 | 103 | 230 | |
| 9 | 179 | 46 | 153 | 83 | 94 | 120 | 2 | 15 | | 24 | 194 | 226 | 231 | |
| 10 | 183 | 47 | 97 | 84 | 77 | 121 | 14 | 15 | | 63 | 195 | 215 | 232 | |
| 11 | 171 | 48 | 240 | 85 | 52 | 122 | 42 | 15 | | 99 | 196 | 92 | 233 | |
| 12 | 255 | 49 | 169 | 86 | 140 | 123 | 214 | 16 | | 4 | 197 | 67 | 234 | |
| 13 | 132 | 50 | 241 | 87 | 10 | 124 | 91 | 16 | | 96 | 198 | 30 | 235 | |
| 14 | 50 | 51 | 174 | 88 | 54 | 125 | 86 | 16 | | 7 | 199 | 90 | 236 | |
| 15 | 158 | 52 | 228 | 89 | 130 | 126 | 117 | 16 | | 51 | 200 | 81 | 237 | |
| 16 | 116 | 53 | 197 | 90 | 32 | 127 | 156 | 16 | | .52 | 201 | 96 | 238 | |
| 17 | 155 | 54 | 34 | 91 | 224 | 128 | 122 | 16 | | .02 | 202 | 247 | 239 | |
| 18 | 111 | 55 | 238 | 92 | 217 | 129 | 177 | 16 | | 29 | 203 | 188 | 240 | |
| 19 | 218 | 56 | 243 | 93 | 118 | 130 | 185 | 16 | | 94 | 204 | 154 | 241 | |
| 20 | 127 | 57 | 160 | 94 | 149 | 131 | 129 | 16 | | 5 | 205 | 104 | 242 | |
| 21 | 170 | 58 | 206 | 95 | 69 | 132 | 41 | 16 | | .33 | 206 | 207 | 243 | 123 |
| 22 | 248 | 59 | 19 | 96 | 12 | 133 | 223 | 17 | | 3 | 207 | 20 | 244 | |
| 23 | 145 | 60 | 121 | 97 | 36 | 134 | 100 | 17 | | 39 | 208 | 108 | 245 | |
| 24 | 89 | 61 | 184 | 98 | 252 | 135 | 235 | 17 | | 1 | 209 | 211 | 246 | |
| 25 | 88 | 62 | 134 | 99 | 141 | 136 | 232 | 17 | 3 9 | 3 | 210 | 64 | 247 | 239 |
| 26 | 95 | 63 | 60 | 100 | 13 | 137 | 225 | 17 | 4 6 | 8 | 211 | 23 | 248 | 244 |
| 27 | 74 | 64 | 180 | 101 | 35 | 138 | 222 | 17 | 5 1 | 1 | 212 | 101 | 249 | 181 |
| 28 | 33 | 65 | 162 | 102 | 233 | 139 | 99 | 17 | 6 4 | 9 | 213 | 236 | 250 | 165 |
| 29 | 231 | 66 | 192 | 103 | 230 | 140 | 254 | 17 | 7 1 | 51 | 214 | 253 | 251 | 213 |
| 30 | 204 | 67 | 57 | 104 | 203 | 141 | 131 | 17 | 8 7 | 5 | 215 | 138 | 252 | 82 |
| 31 | 29 | 68 | 175 | 105 | 8 | 142 | 39 | 17 | | 8 | 216 | 24 | 253 | |
| 32 | 83 | 69 | 227 | 106 | 56 | 143 | 245 | 18 | | 42 | 217 | 72 | 254 | |
| 33 | 110 | 70 | 208 | 107 | 168 | 144 | 178 | 18 | | 67 | 218 | 47 | * | 0 |
| 34 | 221 | 71 | 73 | 108 | 246 | 145 | 176 | 18 | | 19 | 219 | 205 | | |
| 35 | 106 | 72 | 40 | 109 | 187 | 146 | 190 | 18 | | 20 | 220 | 26 | | |
| 36 | 193 | 73 | 216 | 110 | 143 | 147 | 148 | 18 | | 91 | 221 | 70 | | |
| | | | | | | | | | | | | | | |

Logarithm table for GF(256) with irreducible polynomial 471 (0x1D7)

by Cody Planteen; https://codyplanteen.com/notes/rs; June 24, 2019

$$F(x) = x^8 + x^7 + x^6 + x^4 + x^2 + x + 1, \ \alpha = x^2 + x + 1 = 7 \ = \ \texttt{0x07}$$

Example: $35 \cdot 36 = \alpha^{101} \alpha^{97} = \alpha^{198} = 30$

| $\frac{\alpha^j}{}$ | j | α^{j} | j |
|---------------------|-----|--------------|-----|--------------|-----|--------------|-----|--------------|-----|--------------|-----|--------------|-----|
| 0 | * | 37 | 162 | 74 | 27 | 111 | 18 | 148 | 147 | 185 | 130 | 222 | 138 |
| 1 | 0 | 38 | 179 | 75 | 178 | 112 | 226 | 149 | 94 | 186 | 38 | 223 | 133 |
| 2 | 120 | 39 | 142 | 76 | 44 | 113 | 74 | 150 | 43 | 187 | 109 | 224 | 91 |
| 3 | 111 | 40 | 72 | 77 | 84 | 114 | 187 | 151 | 177 | 188 | 203 | 225 | 137 |
| 4 | 240 | 41 | 132 | 78 | 7 | 115 | 238 | 152 | 164 | 189 | 114 | 226 | 194 |
| 5 | 222 | 42 | 122 | 79 | 150 | 116 | 16 | 153 | 46 | 190 | 146 | 227 | 69 |
| 6 | 231 | 43 | 5 | 80 | 192 | 117 | 126 | 154 | 204 | 191 | 184 | 228 | 52 |
| 7 | 1 | 44 | 160 | 81 | 200 | 118 | 93 | 155 | 17 | 192 | 66 | 229 | 166 |
| 8 | 105 | 45 | 79 | 82 | 252 | 119 | 190 | 156 | 127 | 193 | 36 | 230 | 103 |
| 9 | 112 | 46 | 76 | 83 | 32 | 120 | 183 | 157 | 115 | 194 | 167 | 231 | 29 |
| 10 | 87 | 47 | 218 | 84 | 242 | 121 | 60 | 158 | 15 | 195 | 80 | 232 | 136 |
| 11 | 175 | 48 | 81 | 85 | 156 | 122 | 128 | 159 | 237 | 196 | 161 | 233 | 102 |
| 12 | 96 | 49 | 176 | 86 | 125 | 123 | 243 | 160 | 57 | 197 | 53 | 234 | 246 |
| 13 | 100 | 50 | 14 | 87 | 186 | 124 | 157 | 161 | 229 | 198 | 4 | 235 | 135 |
| 14 | 121 | 51 | 45 | 88 | 25 | 125 | 116 | 162 | 65 | 199 | 159 | 236 | 213 |
| 15 | 78 | 52 | 85 | 89 | 24 | 126 | 233 | 163 | 158 | 200 | 254 | 237 | 235 |
| 16 | 225 | 53 | 170 | 90 | 199 | 127 | 20 | 164 | 117 | 201 | 230 | 238 | 55 |
| 17 | 189 | 54 | 88 | 91 | 124 | 128 | 75 | 165 | 250 | 202 | 77 | 239 | 247 |
| 18 | 232 | 55 | 168 | 92 | 196 | 129 | 131 | 166 | 152 | 203 | 104 | 240 | 48 |
| 19 | 59 | 56 | 106 | 93 | 173 | 130 | 89 | 167 | 181 | 204 | 30 | 241 | 50 |
| 20 | 207 | 57 | 67 | 94 | 83 | 131 | 141 | 168 | 107 | 205 | 219 | 242 | 180 |
| 21 | 2 | 58 | 151 | 95 | 26 | 132 | 13 | 169 | 49 | 206 | 58 | 243 | 56 |
| 22 | 40 | 59 | 228 | 96 | 201 | 133 | 169 | 170 | 21 | 207 | 206 | 244 | 248 |
| 23 | 211 | 60 | 63 | 97 | 47 | 134 | 62 | 171 | 11 | 208 | 70 | 245 | 143 |
| 24 | 216 | 61 | 8 | 98 | 41 | 135 | 227 | 172 | 245 | 209 | 6 | 246 | 108 |
| 25 | 149 | 62 | 37 | 99 | 139 | 136 | 39 | 173 | 234 | 210 | 118 | 247 | 202 |
| 26 | 220 | 63 | 113 | 100 | 134 | 137 | 188 | 174 | 51 | 211 | 209 | 248 | 22 |
| 27 | 223 | 64 | 210 | 101 | 212 | 138 | 215 | 175 | 68 | 212 | 155 | 249 | 42 |
| 28 | 241 | 65 | 224 | 102 | 165 | 139 | 171 | 176 | 145 | 213 | 251 | 250 | 236 |
| 29 | 31 | 66 | 148 | 103 | 193 | 140 | 86 | 177 | 129 | 214 | 123 | 251 | 163 |
| 30 | 198 | 67 | 197 | 104 | 205 | 141 | 99 | 178 | 144 | 215 | 195 | 252 | 98 |
| 31 | 172 | 68 | 174 | 105 | 253 | 142 | 239 | 179 | 9 | 216 | 73 | 253 | 214 |
| 32 | 90 | 69 | 95 | 106 | 35 | 143 | 110 | 180 | 64 | 217 | 92 | 254 | 140 |
| 33 | 28 | 70 | 221 | 107 | 3 | 144 | 82 | 181 | 249 | 218 | 19 | 255 | 12 |
| 34 | 54 | 71 | 119 | 108 | 208 | 145 | 23 | 182 | 244 | 219 | 182 | | |
| 35 | 101 | 72 | 217 | 109 | 154 | 146 | 191 | 183 | 10 | 220 | 153 | | |
| 36 | 97 | 73 | 71 | 110 | 33 | 147 | 185 | 184 | 61 | 221 | 34 | | |

Anti-logarithm table for $\mathrm{GF}(256)$ with irreducible polynomial 477 $(0\mathrm{x}1\mathrm{DD})$

by Cody Planteen; https://codyplanteen.com/notes/rs; June 24, 2019 $F(x)=x^8+x^7+x^6+x^4+x^3+x^2+1,\,\alpha=x^2+x+1$ = 7 = 0x07

| \overline{j} | α^j | j | α^{j} | j | α^{j} | j | α^{j} | \overline{j} | α^{j} | j | | α^{j} | j | α^{j} |
|----------------|------------|-----------------|-------------------|----------|-------------------|--------------|--------------|----------------|-------------------|----------|----|--------------|-------------------|-------------------|
| $\frac{J}{0}$ | 1 | | | - | | | | | | | | | $\frac{J}{222}$ | |
| 0 1 | 1 7 | $\frac{37}{38}$ | $\frac{124}{169}$ | 74 75 | 193 32 | 111 112 | 120 181 | 148 149 | $\frac{236}{227}$ | 18 18 | | 198 53 | 222 | 209 80 |
| 2 | 7 21 | 39 | $\frac{109}{229}$ | 75 76 | $\frac{32}{224}$ | 112 | 177 | | 206 | 18 | | 55 139 | $\frac{223}{224}$ | 109 |
| 3 | 107 | 39 40 | $\frac{229}{220}$ | 76 77 | $\frac{224}{199}$ | 113 114 | | 150 151 | 200 13 | 18 | | 139 11 | $\frac{224}{225}$ | $\frac{109}{222}$ |
| | 204 | 40 | | | 199 50 | $114 \\ 115$ | 173 249 | | $\frac{15}{35}$ | 18 | | 49 | $\frac{225}{226}$ | $\frac{222}{125}$ |
| 4 | | | 115 | 78 70 | | | | 152 | | | | | | |
| 5 | 3 | 42 | 132 | 79 | 158 | 116 | 136 | 153 | 233 | 19 | | 151 | 227 | 174 |
| 6 | 9 | 43 | 38 | 80 | 96 | 117 | 2 | 154 | 248 | 19 | | 95 | 228 | 240 |
| 7 | 63 | 44 | 242 | 81 | 253 | 118 | 14 | 155 | 143 | 19 | | 64 | 229 | 183 |
| 8 | 189 | 45 | 185 | 82 | 148 | 119 | 42 | 156 | 23 | 19 | | 29 | 230 | 191 |
| 9 | 137 | 46 | 149 | 83 | 86 | 120 | 214 | 157 | 101 | 19 | | 83 | 231 | 135 |
| 10 | 5 | 47 | 81 | 84 | 127 | 121 | 69 | 158 | 230 | 19 | | 100 | 232 | 47 |
| 11 | 27 | 48 | 106 | 85 | 160 | 122 | 6 | 159 | 213 | 19 | | 225 | 233 | 205 |
| 12 | 65 | 49 | 203 | 86 | 218 | 123 | 18 | 160 | 76 | 19 | | 192 | 234 | 4 |
| 13 | 26 | 50 | 22 | 87 | 97 | 124 | 126 | 161 | 57 | 19 | | 39 | 235 | 28 |
| 14 | 70 | 51 | 98 | 88 | 250 | 125 | 167 | 162 | 175 | 19 | | 245 | 236 | 84 |
| 15 | 15 | 52 | 243 | 89 | 129 | 126 | 207 | 163 | 247 | 20 | | 172 | 237 | 113 |
| 16 | 45 | 53 | 190 | 90 | 61 | 127 | 10 | 164 | 162 | 20 | | 254 | 238 | 138 |
| 17 | 195 | 54 | 128 | 91 | 179 | 128 | 54 | 165 | 212 | 20 | | 157 | 239 | 12 |
| 18 | 46 | 55 | 58 | 92 | 163 | 129 | 130 | 166 | 75 | 20 | | 105 | 240 | 36 |
| 19 | 202 | 56 | 166 | 93 | 211 | 130 | 52 | 167 | 44 | 20 | | 194 | 241 | 252 |
| 20 | 17 | 57 | 200 | 94 | 94 | 131 | 140 | 168 | 196 | 20 | | 41 | 242 | 147 |
| 21 | 119 | 58 | 31 | 95 | 71 | 132 | 30 | 169 | 59 | 20 | | 223 | 243 | 67 |
| 22 | 152 | 59 | 93 | 96 | 8 | 133 | 90 | 170 | 161 | 20 | | 122 | 244 | 20 |
| 23 | 114 | 60 | 78 | 97 | 56 | 134 | 91 | 171 | 221 | 20 | | 187 | 245 | 108 |
| 24 | 131 | 61 | 55 | 98 | 168 | 135 | 92 | 172 | 116 | 20 | | 155 | 246 | 217 |
| 25 | 51 | 62 | 133 | 99 | 226 | 136 | 73 | 173 | 145 | 21 | .0 | 123 | 247 | 104 |
| 26 | 153 | 63 | 33 | 100 | 201 | 137 | 34 | 174 | 77 | 21 | .1 | 188 | 248 | 197 |
| 27 | 117 | 64 | 231 | 101 | 24 | 138 | 238 | 175 | 62 | 21 | 2 | 142 | 249 | 60 |
| 28 | 150 | 65 | 210 | 102 | 72 | 139 | 237 | 176 | 186 | 21 | .3 | 16 | 250 | 180 |
| 29 | 88 | 66 | 89 | 103 | 37 | 140 | 228 | 177 | 156 | 21 | 4 | 112 | 251 | 182 |
| 30 | 85 | 67 | 82 | 104 | 251 | 141 | 219 | 178 | 110 | 21 | 5 | 141 | 252 | 184 |
| 31 | 118 | 68 | 99 | 105 | 134 | 142 | 102 | 179 | 215 | 21 | 6 | 25 | 253 | 146 |
| 32 | 159 | 69 | 244 | 106 | 40 | 143 | 239 | 180 | 66 | 21 | | 79 | 254 | 68 |
| 33 | 103 | 70 | 171 | 107 | 216 | 144 | 234 | 181 | 19 | 21 | | 48 | * | 0 |
| 34 | 232 | 71 | 235 | 108 | 111 | 145 | 241 | 182 | 121 | 21 | | 144 | | |
| 35 | 255 | 72 | 246 | 109 | 208 | 146 | 176 | 183 | 178 | 22 | | 74 | | |
| 36 | 154 | 73 | 165 | 110 | 87 | 147 | 170 | 184 | 164 | 22 | | 43 | | |
| | - ' | . • | | | | | | | | | | | | |

Logarithm table for GF(256) with irreducible polynomial 477 (0x1DD)

by Cody Planteen; https://codyplanteen.com/notes/rs; June 24, 2019

$$F(x) = x^8 + x^7 + x^6 + x^4 + x^3 + x^2 + 1, \ \alpha = x^2 + x + 1 = 7 = 0 \text{x07}$$

Example: $35 \cdot 36 = \alpha^{152} \alpha^{240} = \alpha^{392} = \alpha^{392 \mod 255} = \alpha^{137} = 34$

| 0 * 1 0 2 11 | 38 | 103 | 74 | | | | | j | | j | | j |
|--------------------|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 2 11 | | | 74 | 220 | 111 | 108 | 148 | 82 | 185 | 45 | 222 | 225 |
| | 17 20 | 43 | 75 | 166 | 112 | 214 | 149 | 46 | 186 | 176 | 223 | 206 |
| | 11 39 | 198 | 76 | 160 | 113 | 237 | 150 | 28 | 187 | 208 | 224 | 76 |
| 3 5 | 40 | 106 | 77 | 174 | 114 | 23 | 151 | 190 | 188 | 211 | 225 | 196 |
| 4 23 | 34 41 | 205 | 78 | 60 | 115 | 41 | 152 | 22 | 189 | 8 | 226 | 99 |
| 5 10 | 0 42 | 119 | 79 | 217 | 116 | 172 | 153 | 26 | 190 | 53 | 227 | 149 |
| 6 	 12 | 22 	 43 | 221 | 80 | 223 | 117 | 27 | 154 | 36 | 191 | 230 | 228 | 140 |
| 7 1 | 44 | 167 | 81 | 47 | 118 | 31 | 155 | 209 | 192 | 197 | 229 | 39 |
| 8 96 | 6 	 45 | 16 | 82 | 67 | 119 | 21 | 156 | 177 | 193 | 74 | 230 | 158 |
| 9 6 | | 18 | 83 | 194 | 120 | 111 | 157 | 202 | 194 | 204 | 231 | 64 |
| | 27 	 47 | 232 | 84 | 236 | 121 | 182 | 158 | 79 | 195 | 17 | 232 | 34 |
| | 88 48 | 218 | 85 | 30 | 122 | 207 | 159 | 32 | 196 | 168 | 233 | 153 |
| | 39 	 49 | 189 | 86 | 83 | 123 | 210 | 160 | 85 | 197 | 248 | 234 | 144 |
| | 51 50 | 78 | 87 | 110 | 124 | 37 | 161 | 170 | 198 | 185 | 235 | 71 |
| | 18 51 | 25 | 88 | 29 | 125 | 226 | 162 | 164 | 199 | 77 | 236 | 148 |
| 15 - 15 | | 130 | 89 | 66 | 126 | 124 | 163 | 92 | 200 | 57 | 237 | 139 |
| 16 	 21 | 13 53 | 186 | 90 | 133 | 127 | 84 | 164 | 184 | 201 | 100 | 238 | 138 |
| 17 20 | 0 	 54 | 128 | 91 | 134 | 128 | 54 | 165 | 73 | 202 | 19 | 239 | 143 |
| | 23 	 55 | 61 | 92 | 135 | 129 | 89 | 166 | 56 | 203 | 49 | 240 | 228 |
| | 81 56 | 97 | 93 | 59 | 130 | 129 | 167 | 125 | 204 | 4 | 241 | 145 |
| 20 	 24 | 44 57 | 161 | 94 | 94 | 131 | 24 | 168 | 98 | 205 | 233 | 242 | 44 |
| 21 2 | 58 | 55 | 95 | 191 | 132 | 42 | 169 | 38 | 206 | 150 | 243 | 52 |
| 22 50 | 0 59 | 169 | 96 | 80 | 133 | 62 | 170 | 147 | 207 | 126 | 244 | 69 |
| | 56 60 | 249 | 97 | 87 | 134 | 105 | 171 | 70 | 208 | 109 | 245 | 199 |
| 24 10 | 01 61 | 90 | 98 | 51 | 135 | 231 | 172 | 200 | 209 | 222 | 246 | 72 |
| 25 	 21 | 16 62 | 175 | 99 | 68 | 136 | 116 | 173 | 114 | 210 | 65 | 247 | 163 |
| 26 13 | 3 63 | 7 | 100 | 195 | 137 | 9 | 174 | 227 | 211 | 93 | 248 | 154 |
| 27 11 | | 192 | 101 | 157 | 138 | 238 | 175 | 162 | 212 | 165 | 249 | 115 |
| 28 	 23 | $35 \qquad 65$ | 12 | 102 | 142 | 139 | 187 | 176 | 146 | 213 | 159 | 250 | 88 |
| 29 19 | 93 66 | 180 | 103 | 33 | 140 | 131 | 177 | 113 | 214 | 120 | 251 | 104 |
| 30 - 13 | 32 	 67 | 243 | 104 | 247 | 141 | 215 | 178 | 183 | 215 | 179 | 252 | 241 |
| 31 - 58 | 8 68 | 254 | 105 | 203 | 142 | 212 | 179 | 91 | 216 | 107 | 253 | 81 |
| 32 - 75 | 5 69 | 121 | 106 | 48 | 143 | 155 | 180 | 250 | 217 | 246 | 254 | 201 |
| 33 - 63 | | 14 | 107 | 3 | 144 | 219 | 181 | 112 | 218 | 86 | 255 | 35 |
| 34 13 | 37 71 | 95 | 108 | 245 | 145 | 173 | 182 | 251 | 219 | 141 | | |
| | 52 72 | 102 | 109 | 224 | 146 | 253 | 183 | 229 | 220 | 40 | | |
| 36 	 24 | 40 73 | 136 | 110 | 178 | 147 | 242 | 184 | 252 | 221 | 171 | | |

Anti-logarithm table for $\mathrm{GF}(256)$ with primitive, irreducible polynomial $487~(0\mathrm{x}1\mathrm{E}7)$

by Cody Planteen; https://codyplanteen.com/notes/rs; June 24, 2019

$$F(x) = x^8 + x^7 + x^6 + x^5 + x^2 + x + 1, \ \alpha = x + 0 = \text{ 2 = 0x02}$$

| \overline{j} | α^j | j | α^j | j | α^j | j | α^j | j | $lpha^j$ | j | α^{j} | j | α^j |
|----------------|------------|----|------------|-----|------------|-----|------------|-----|----------|-----|--------------|-----|------------|
| 0 | 1 | 37 | 35 | 74 | 87 | 111 | 148 | 148 | 93 | 185 | 45 | 222 | 98 |
| 1 | 2 | 38 | 70 | 75 | 174 | 112 | 207 | 149 | 186 | 186 | 90 | 223 | 196 |
| 2 | 4 | 39 | 140 | 76 | 187 | 113 | 121 | 150 | 147 | 187 | 180 | 224 | 111 |
| 3 | 8 | 40 | 255 | 77 | 145 | 114 | 242 | 151 | 193 | 188 | 143 | 225 | 222 |
| 4 | 16 | 41 | 25 | 78 | 197 | 115 | 3 | 152 | 101 | 189 | 249 | 226 | 91 |
| 5 | 32 | 42 | 50 | 79 | 109 | 116 | 6 | 153 | 202 | 190 | 21 | 227 | 182 |
| 6 | 64 | 43 | 100 | 80 | 218 | 117 | 12 | 154 | 115 | 191 | 42 | 228 | 139 |
| 7 | 128 | 44 | 200 | 81 | 83 | 118 | 24 | 155 | 230 | 192 | 84 | 229 | 241 |
| 8 | 231 | 45 | 119 | 82 | 166 | 119 | 48 | 156 | 43 | 193 | 168 | 230 | 5 |
| 9 | 41 | 46 | 238 | 83 | 171 | 120 | 96 | 157 | 86 | 194 | 183 | 231 | 10 |
| 10 | 82 | 47 | 59 | 84 | 177 | 121 | 192 | 158 | 172 | 195 | 137 | 232 | 20 |
| 11 | 164 | 48 | 118 | 85 | 133 | 122 | 103 | 159 | 191 | 196 | 245 | 233 | 40 |
| 12 | 175 | 49 | 236 | 86 | 237 | 123 | 206 | 160 | 153 | 197 | 13 | 234 | 80 |
| 13 | 185 | 50 | 63 | 87 | 61 | 124 | 123 | 161 | 213 | 198 | 26 | 235 | 160 |
| 14 | 149 | 51 | 126 | 88 | 122 | 125 | 246 | 162 | 77 | 199 | 52 | 236 | 167 |
| 15 | 205 | 52 | 252 | 89 | 244 | 126 | 11 | 163 | 154 | 200 | 104 | 237 | 169 |
| 16 | 125 | 53 | 31 | 90 | 15 | 127 | 22 | 164 | 211 | 201 | 208 | 238 | 181 |
| 17 | 250 | 54 | 62 | 91 | 30 | 128 | 44 | 165 | 65 | 202 | 71 | 239 | 141 |
| 18 | 19 | 55 | 124 | 92 | 60 | 129 | 88 | 166 | 130 | 203 | 142 | 240 | 253 |
| 19 | 38 | 56 | 248 | 93 | 120 | 130 | 176 | 167 | 227 | 204 | 251 | 241 | 29 |
| 20 | 76 | 57 | 23 | 94 | 240 | 131 | 135 | 168 | 33 | 205 | 17 | 242 | 58 |
| 21 | 152 | 58 | 46 | 95 | 7 | 132 | 233 | 169 | 66 | 206 | 34 | 243 | 116 |
| 22 | 215 | 59 | 92 | 96 | 14 | 133 | 53 | 170 | 132 | 207 | 68 | 244 | 232 |
| 23 | 73 | 60 | 184 | 97 | 28 | 134 | 106 | 171 | 239 | 208 | 136 | 245 | 55 |
| 24 | 146 | 61 | 151 | 98 | 56 | 135 | 212 | 172 | 57 | 209 | 247 | 246 | 110 |
| 25 | 195 | 62 | 201 | 99 | 112 | 136 | 79 | 173 | 114 | 210 | 9 | 247 | 220 |
| 26 | 97 | 63 | 117 | 100 | 224 | 137 | 158 | 174 | 228 | 211 | 18 | 248 | 95 |
| 27 | 194 | 64 | 234 | 101 | 39 | 138 | 219 | 175 | 47 | 212 | 36 | 249 | 190 |
| 28 | 99 | 65 | 51 | 102 | 78 | 139 | 81 | 176 | 94 | 213 | 72 | 250 | 155 |
| 29 | 198 | 66 | 102 | 103 | 156 | 140 | 162 | 177 | 188 | 214 | 144 | 251 | 209 |
| 30 | 107 | 67 | 204 | 104 | 223 | 141 | 163 | 178 | 159 | 215 | 199 | 252 | 69 |
| 31 | 214 | 68 | 127 | 105 | 89 | 142 | 161 | 179 | 217 | 216 | 105 | 253 | 138 |
| 32 | 75 | 69 | 254 | 106 | 178 | 143 | 165 | 180 | 85 | 217 | 210 | 254 | 243 |
| 33 | 150 | 70 | 27 | 107 | 131 | 144 | 173 | 181 | 170 | 218 | 67 | * | 0 |
| 34 | 203 | 71 | 54 | 108 | 225 | 145 | 189 | 182 | 179 | 219 | 134 | | |
| 35 | 113 | 72 | 108 | 109 | 37 | 146 | 157 | 183 | 129 | 220 | 235 | | |
| 36 | 226 | 73 | 216 | 110 | 74 | 147 | 221 | 184 | 229 | 221 | 49 | | |

Logarithm table for GF(256) with primitive, irreducible polynomial 487 (0x1E7)

by Cody Planteen; https://codyplanteen.com/notes/rs; June 24, 2019

$$F(x) = x^8 + x^7 + x^6 + x^5 + x^2 + x + 1, \ \alpha = x + 0 = \text{2 = 0x02}$$

Example: $35 \cdot 36 = \alpha^{37} \alpha^{212} = \alpha^{249} = 190$

| $\overline{\alpha^j}$ | j | α^{j} | j |
|-----------------------|-----|--------------|-----|--------------|-----|--------------|-----|--------------|-----|--------------|-----|--------------|-----|
| 0 | * | 37 | 109 | 74 | 110 | 111 | 224 | 148 | 111 | 185 | 13 | 222 | 225 |
| 1 | 0 | 38 | 19 | 75 | 32 | 112 | 99 | 149 | 14 | 186 | 149 | 223 | 104 |
| 2 | 1 | 39 | 101 | 76 | 20 | 113 | 35 | 150 | 33 | 187 | 76 | 224 | 100 |
| 3 | 115 | 40 | 233 | 77 | 162 | 114 | 173 | 151 | 61 | 188 | 177 | 225 | 108 |
| 4 | 2 | 41 | 9 | 78 | 102 | 115 | 154 | 152 | 21 | 189 | 145 | 226 | 36 |
| 5 | 230 | 42 | 191 | 79 | 136 | 116 | 243 | 153 | 160 | 190 | 249 | 227 | 167 |
| 6 | 116 | 43 | 156 | 80 | 234 | 117 | 63 | 154 | 163 | 191 | 159 | 228 | 174 |
| 7 | 95 | 44 | 128 | 81 | 139 | 118 | 48 | 155 | 250 | 192 | 121 | 229 | 184 |
| 8 | 3 | 45 | 185 | 82 | 10 | 119 | 45 | 156 | 103 | 193 | 151 | 230 | 155 |
| 9 | 210 | 46 | 58 | 83 | 81 | 120 | 93 | 157 | 146 | 194 | 27 | 231 | 8 |
| 10 | 231 | 47 | 175 | 84 | 192 | 121 | 113 | 158 | 137 | 195 | 25 | 232 | 244 |
| 11 | 126 | 48 | 119 | 85 | 180 | 122 | 88 | 159 | 178 | 196 | 223 | 233 | 132 |
| 12 | 117 | 49 | 221 | 86 | 157 | 123 | 124 | 160 | 235 | 197 | 78 | 234 | 64 |
| 13 | 197 | 50 | 42 | 87 | 74 | 124 | 55 | 161 | 142 | 198 | 29 | 235 | 220 |
| 14 | 96 | 51 | 65 | 88 | 129 | 125 | 16 | 162 | 140 | 199 | 215 | 236 | 49 |
| 15 | 90 | 52 | 199 | 89 | 105 | 126 | 51 | 163 | 141 | 200 | 44 | 237 | 86 |
| 16 | 4 | 53 | 133 | 90 | 186 | 127 | 68 | 164 | 11 | 201 | 62 | 238 | 46 |
| 17 | 205 | 54 | 71 | 91 | 226 | 128 | 7 | 165 | 143 | 202 | 153 | 239 | 171 |
| 18 | 211 | 55 | 245 | 92 | 59 | 129 | 183 | 166 | 82 | 203 | 34 | 240 | 94 |
| 19 | 18 | 56 | 98 | 93 | 148 | 130 | 166 | 167 | 236 | 204 | 67 | 241 | 229 |
| 20 | 232 | 57 | 172 | 94 | 176 | 131 | 107 | 168 | 193 | 205 | 15 | 242 | 114 |
| 21 | 190 | 58 | 242 | 95 | 248 | 132 | 170 | 169 | 237 | 206 | 123 | 243 | 254 |
| 22 | 127 | 59 | 47 | 96 | 120 | 133 | 85 | 170 | 181 | 207 | 112 | 244 | 89 |
| 23 | 57 | 60 | 92 | 97 | 26 | 134 | 219 | 171 | 83 | 208 | 201 | 245 | 196 |
| 24 | 118 | 61 | 87 | 98 | 222 | 135 | 131 | 172 | 158 | 209 | 251 | 246 | 125 |
| 25 | 41 | 62 | 54 | 99 | 28 | 136 | 208 | 173 | 144 | 210 | 217 | 247 | 209 |
| 26 | 198 | 63 | 50 | 100 | 43 | 137 | 195 | 174 | 75 | 211 | 164 | 248 | 56 |
| 27 | 70 | 64 | 6 | 101 | 152 | 138 | 253 | 175 | 12 | 212 | 135 | 249 | 189 |
| 28 | 97 | 65 | 165 | 102 | 66 | 139 | 228 | 176 | 130 | 213 | 161 | 250 | 17 |
| 29 | 241 | 66 | 169 | 103 | 122 | 140 | 39 | 177 | 84 | 214 | 31 | 251 | 204 |
| 30 | 91 | 67 | 218 | 104 | 200 | 141 | 239 | 178 | 106 | 215 | 22 | 252 | 52 |
| 31 | 53 | 68 | 207 | 105 | 216 | 142 | 203 | 179 | 182 | 216 | 73 | 253 | 240 |
| 32 | 5 | 69 | 252 | 106 | 134 | 143 | 188 | 180 | 187 | 217 | 179 | 254 | 69 |
| 33 | 168 | 70 | 38 | 107 | 30 | 144 | 214 | 181 | 238 | 218 | 80 | 255 | 40 |
| 34 | 206 | 71 | 202 | 108 | 72 | 145 | 77 | 182 | 227 | 219 | 138 | | |
| 35 | 37 | 72 | 213 | 109 | 79 | 146 | 24 | 183 | 194 | 220 | 247 | | |
| 36 | 212 | 73 | 23 | 110 | 246 | 147 | 150 | 184 | 60 | 221 | 147 | | |

Anti-logarithm table for $\mathrm{GF}(256)$ with primitive, irreducible polynomial 501 (0x1F5)

by Cody Planteen; https://codyplanteen.com/notes/rs; June 24, 2019

 $F(x) = x^8 + x^7 + x^6 + x^5 + x^4 + x^2 + 1, \ \alpha = x + 0 = \text{ 2 = 0x02}$

| j | α^j | j | α^j | j | α^j | j | α^{j} | j | | α^{j} | | j | α^j | j | α^j |
|----|------------|----|------------|-----|------------|-----|--------------|----|--------------|--------------|---|-----|------------|-----|------------|
| 0 | 1 | 37 | 104 | 74 | 134 | 111 | 70 | 14 | 18 | 30 | | 185 | 142 | 222 | 236 |
| 1 | 2 | 38 | 208 | 75 | 249 | 112 | 140 | 14 | 19 | 60 | - | 186 | 233 | 223 | 45 |
| 2 | 4 | 39 | 85 | 76 | 7 | 113 | 237 | 15 | 0 | 120 | | 187 | 39 | 224 | 90 |
| 3 | 8 | 40 | 170 | 77 | 14 | 114 | 47 | 15 | 51 | 240 | | 188 | 78 | 225 | 180 |
| 4 | 16 | 41 | 161 | 78 | 28 | 115 | 94 | 15 | 52 | 21 | | 189 | 156 | 226 | 157 |
| 5 | 32 | 42 | 183 | 79 | 56 | 116 | 188 | 15 | 3 | 42 | | 190 | 205 | 227 | 207 |
| 6 | 64 | 43 | 155 | 80 | 112 | 117 | 141 | 15 | 64 | 84 | | 191 | 111 | 228 | 107 |
| 7 | 128 | 44 | 195 | 81 | 224 | 118 | 239 | 15 | 55 | 168 | | 192 | 222 | 229 | 214 |
| 8 | 245 | 45 | 115 | 82 | 53 | 119 | 43 | 15 | 66 | 165 | | 193 | 73 | 230 | 89 |
| 9 | 31 | 46 | 230 | 83 | 106 | 120 | 86 | 15 | 57 | 191 | | 194 | 146 | 231 | 178 |
| 10 | 62 | 47 | 57 | 84 | 212 | 121 | 172 | 15 | 8 | 139 | | 195 | 209 | 232 | 145 |
| 11 | 124 | 48 | 114 | 85 | 93 | 122 | 173 | 15 | 59 | 227 | | 196 | 87 | 233 | 215 |
| 12 | 248 | 49 | 228 | 86 | 186 | 123 | 175 | 16 | 60 | 51 | | 197 | 174 | 234 | 91 |
| 13 | 5 | 50 | 61 | 87 | 129 | 124 | 171 | 16 | 31 | 102 | | 198 | 169 | 235 | 182 |
| 14 | 10 | 51 | 122 | 88 | 247 | 125 | 163 | 16 | 32 | 204 | | 199 | 167 | 236 | 153 |
| 15 | 20 | 52 | 244 | 89 | 27 | 126 | 179 | 16 | 3 | 109 | 6 | 200 | 187 | 237 | 199 |
| 16 | 40 | 53 | 29 | 90 | 54 | 127 | 147 | 16 | 64 | 218 | 4 | 201 | 131 | 238 | 123 |
| 17 | 80 | 54 | 58 | 91 | 108 | 128 | 211 | 16 | 55 | 65 | 6 | 202 | 243 | 239 | 246 |
| 18 | 160 | 55 | 116 | 92 | 216 | 129 | 83 | 16 | 66 | 130 | 6 | 203 | 19 | 240 | 25 |
| 19 | 181 | 56 | 232 | 93 | 69 | 130 | 166 | 16 | 37 | 241 | 6 | 204 | 38 | 241 | 50 |
| 20 | 159 | 57 | 37 | 94 | 138 | 131 | 185 | 16 | 8 | 23 | 6 | 205 | 76 | 242 | 100 |
| 21 | 203 | 58 | 74 | 95 | 225 | 132 | 135 | 16 | 69 | 46 | 6 | 206 | 152 | 243 | 200 |
| 22 | 99 | 59 | 148 | 96 | 55 | 133 | 251 | 17 | 70 | 92 | 4 | 207 | 197 | 244 | 101 |
| 23 | 198 | 60 | 221 | 97 | 110 | 134 | 3 | 17 | 71 | 184 | 4 | 208 | 127 | 245 | 202 |
| 24 | 121 | 61 | 79 | 98 | 220 | 135 | 6 | 17 | $^{\prime}2$ | 133 | 4 | 209 | 254 | 246 | 97 |
| 25 | 242 | 62 | 158 | 99 | 77 | 136 | 12 | 17 | 73 | 255 | 4 | 210 | 9 | 247 | 194 |
| 26 | 17 | 63 | 201 | 100 | 154 | 137 | 24 | 17 | $^{7}4$ | 11 | 6 | 211 | 18 | 248 | 113 |
| 27 | 34 | 64 | 103 | 101 | 193 | 138 | 48 | 17 | 75 | 22 | 4 | 212 | 36 | 249 | 226 |
| 28 | 68 | 65 | 206 | 102 | 119 | 139 | 96 | 17 | 6 | 44 | 4 | 213 | 72 | 250 | 49 |
| 29 | 136 | 66 | 105 | 103 | 238 | 140 | 192 | 17 | 77 | 88 | 4 | 214 | 144 | 251 | 98 |
| 30 | 229 | 67 | 210 | 104 | 41 | 141 | 117 | 17 | 78 | 176 | 4 | 215 | 213 | 252 | 196 |
| 31 | 63 | 68 | 81 | 105 | 82 | 142 | 234 | 17 | 79 | 149 | 4 | 216 | 95 | 253 | 125 |
| 32 | 126 | 69 | 162 | 106 | 164 | 143 | 33 | 18 | 30 | 223 | | 217 | 190 | 254 | 250 |
| 33 | 252 | 70 | 177 | 107 | 189 | 144 | 66 | 18 | 31 | 75 | 4 | 218 | 137 | * | 0 |
| 34 | 13 | 71 | 151 | 108 | 143 | 145 | 132 | 18 | 32 | 150 | 4 | 219 | 231 | | |
| 35 | 26 | 72 | 219 | 109 | 235 | 146 | 253 | 18 | 33 | 217 | 4 | 220 | 59 | | |
| 36 | 52 | 73 | 67 | 110 | 35 | 147 | 15 | 18 | 34 | 71 | 6 | 221 | 118 | | |

Logarithm table for GF(256) with primitive, irreducible polynomial 501 (0x1F5)

by Cody Planteen; https://codyplanteen.com/notes/rs; June 24, 2019

$$F(x) = x^8 + x^7 + x^6 + x^5 + x^4 + x^2 + 1, \ \alpha = x + 0 = \text{ 2 = 0x02}$$

Example: $35 \cdot 36 = \alpha^{110} \alpha^{212} = \alpha^{322} = \alpha^{322 \mod 255} = \alpha^{67} = 210$

| α^{j} | j |
|--------------|-----|--------------|-----|--------------|-----|--------------|-----|--------------|-----|--------------|-----|--------------|-----|
| 0 | * | 37 | 57 | 74 | 58 | 111 | 191 | 148 | 59 | 185 | 131 | 222 | 192 |
| 1 | 0 | 38 | 204 | 75 | 181 | 112 | 80 | 149 | 179 | 186 | 86 | 223 | 180 |
| 2 | 1 | 39 | 187 | 76 | 205 | 113 | 248 | 150 | 182 | 187 | 200 | 224 | 81 |
| 3 | 134 | 40 | 16 | 77 | 99 | 114 | 48 | 151 | 71 | 188 | 116 | 225 | 95 |
| 4 | 2 | 41 | 104 | 78 | 188 | 115 | 45 | 152 | 206 | 189 | 107 | 226 | 249 |
| 5 | 13 | 42 | 153 | 79 | 61 | 116 | 55 | 153 | 236 | 190 | 217 | 227 | 159 |
| 6 | 135 | 43 | 119 | 80 | 17 | 117 | 141 | 154 | 100 | 191 | 157 | 228 | 49 |
| 7 | 76 | 44 | 176 | 81 | 68 | 118 | 221 | 155 | 43 | 192 | 140 | 229 | 30 |
| 8 | 3 | 45 | 223 | 82 | 105 | 119 | 102 | 156 | 189 | 193 | 101 | 230 | 46 |
| 9 | 210 | 46 | 169 | 83 | 129 | 120 | 150 | 157 | 226 | 194 | 247 | 231 | 219 |
| 10 | 14 | 47 | 114 | 84 | 154 | 121 | 24 | 158 | 62 | 195 | 44 | 232 | 56 |
| 11 | 174 | 48 | 138 | 85 | 39 | 122 | 51 | 159 | 20 | 196 | 252 | 233 | 186 |
| 12 | 136 | 49 | 250 | 86 | 120 | 123 | 238 | 160 | 18 | 197 | 207 | 234 | 142 |
| 13 | 34 | 50 | 241 | 87 | 196 | 124 | 11 | 161 | 41 | 198 | 23 | 235 | 109 |
| 14 | 77 | 51 | 160 | 88 | 177 | 125 | 253 | 162 | 69 | 199 | 237 | 236 | 222 |
| 15 | 147 | 52 | 36 | 89 | 230 | 126 | 32 | 163 | 125 | 200 | 243 | 237 | 113 |
| 16 | 4 | 53 | 82 | 90 | 224 | 127 | 208 | 164 | 106 | 201 | 63 | 238 | 103 |
| 17 | 26 | 54 | 90 | 91 | 234 | 128 | 7 | 165 | 156 | 202 | 245 | 239 | 118 |
| 18 | 211 | 55 | 96 | 92 | 170 | 129 | 87 | 166 | 130 | 203 | 21 | 240 | 151 |
| 19 | 203 | 56 | 79 | 93 | 85 | 130 | 166 | 167 | 199 | 204 | 162 | 241 | 167 |
| 20 | 15 | 57 | 47 | 94 | 115 | 131 | 201 | 168 | 155 | 205 | 190 | 242 | 25 |
| 21 | 152 | 58 | 54 | 95 | 216 | 132 | 145 | 169 | 198 | 206 | 65 | 243 | 202 |
| 22 | 175 | 59 | 220 | 96 | 139 | 133 | 172 | 170 | 40 | 207 | 227 | 244 | 52 |
| 23 | 168 | 60 | 149 | 97 | 246 | 134 | 74 | 171 | 124 | 208 | 38 | 245 | 8 |
| 24 | 137 | 61 | 50 | 98 | 251 | 135 | 132 | 172 | 121 | 209 | 195 | 246 | 239 |
| 25 | 240 | 62 | 10 | 99 | 22 | 136 | 29 | 173 | 122 | 210 | 67 | 247 | 88 |
| 26 | 35 | 63 | 31 | 100 | 242 | 137 | 218 | 174 | 197 | 211 | 128 | 248 | 12 |
| 27 | 89 | 64 | 6 | 101 | 244 | 138 | 94 | 175 | 123 | 212 | 84 | 249 | 75 |
| 28 | 78 | 65 | 165 | 102 | 161 | 139 | 158 | 176 | 178 | 213 | 215 | 250 | 254 |
| 29 | 53 | 66 | 144 | 103 | 64 | 140 | 112 | 177 | 70 | 214 | 229 | 251 | 133 |
| 30 | 148 | 67 | 73 | 104 | 37 | 141 | 117 | 178 | 231 | 215 | 233 | 252 | 33 |
| 31 | 9 | 68 | 28 | 105 | 66 | 142 | 185 | 179 | 126 | 216 | 92 | 253 | 146 |
| 32 | 5 | 69 | 93 | 106 | 83 | 143 | 108 | 180 | 225 | 217 | 183 | 254 | 209 |
| 33 | 143 | 70 | 111 | 107 | 228 | 144 | 214 | 181 | 19 | 218 | 164 | 255 | 173 |
| 34 | 27 | 71 | 184 | 108 | 91 | 145 | 232 | 182 | 235 | 219 | 72 | | |
| 35 | 110 | 72 | 213 | 109 | 163 | 146 | 194 | 183 | 42 | 220 | 98 | | |
| 36 | 212 | 73 | 193 | 110 | 97 | 147 | 127 | 184 | 171 | 221 | 60 | | |

Anti-logarithm table for $\mathrm{GF}(256)$ with irreducible polynomial 505 $(0\mathrm{x}1\mathrm{F}9)$

by Cody Planteen; https://codyplanteen.com/notes/rs; June 24, 2019

$$F(x) = x^8 + x^7 + x^6 + x^5 + x^4 + x^3 + 1, \ \alpha = x + 1 = \text{ 3 = 0x03}$$

| $\frac{}{j}$ | α^{j} | j | α^{j} | j | α^{j} | j | α^{j} | j | α^{j} | j | α^{j} | j | α^{j} |
|--------------|--------------|----|--------------------|-----|--------------|-----|-------------------|-----|--------------|-----|--------------|-------------------|--------------|
| 0 | 1 | 37 | 197 | 74 | 208 | 111 | 153 | 148 | 56 | 185 | | 222 | 33 |
| 1 | 3 | 38 | 182 | 75 | 137 | 112 | 82 | 149 | 72 | 186 | | $\frac{222}{223}$ | 99 |
| 2 | 5 | 39 | 35 | 76 | 98 | 113 | 246 | 150 | 216 | 187 | | $\frac{223}{224}$ | 165 |
| 3 | 15 | 40 | 101 | 77 | 166 | 114 | $\frac{210}{227}$ | 151 | 145 | 188 | | $\frac{221}{225}$ | 22 |
| 4 | 17 | 41 | 175 | 78 | 19 | 115 | 220 | 152 | 74 | 189 | | 226 | 58 |
| 5 | 51 | 42 | 8 | 79 | 53 | 116 | 157 | 153 | 222 | 190 | | 227 | 78 |
| 6 | 85 | 43 | $\frac{\circ}{24}$ | 80 | 95 | 117 | 94 | 154 | 155 | 191 | | 228 | 210 |
| 7 | 255 | 44 | 40 | 81 | 225 | 118 | 226 | 155 | 84 | 192 | | 229 | 143 |
| 8 | 248 | 45 | 120 | 82 | 218 | 119 | 223 | 156 | 252 | 193 | | 230 | 104 |
| 9 | 241 | 46 | 136 | 83 | 151 | 120 | 152 | 157 | 253 | 194 | | 231 | 184 |
| 10 | 234 | 47 | 97 | 84 | 64 | 121 | 81 | 158 | 254 | 195 | | 232 | 49 |
| 11 | 199 | 48 | 163 | 85 | 192 | 122 | 243 | 159 | 251 | 196 | | 233 | 83 |
| 12 | 176 | 49 | 28 | 86 | 185 | 123 | 236 | 160 | 244 | 197 | | 234 | 245 |
| 13 | 41 | 50 | 36 | 87 | 50 | 124 | 205 | 161 | 229 | 198 | 3 4 | 235 | 230 |
| 14 | 123 | 51 | 108 | 88 | 86 | 125 | 174 | 162 | 214 | 199 | 12 | 236 | 211 |
| 15 | 141 | 52 | 180 | 89 | 250 | 126 | 11 | 163 | 131 | 200 | 20 | 237 | 140 |
| 16 | 110 | 53 | 37 | 90 | 247 | 127 | 29 | 164 | 124 | 201 | 60 | 238 | 109 |
| 17 | 178 | 54 | 111 | 91 | 224 | 128 | 39 | 165 | 132 | 202 | 68 | 239 | 183 |
| 18 | 47 | 55 | 177 | 92 | 217 | 129 | 105 | 166 | 117 | 203 | 204 | 240 | 32 |
| 19 | 113 | 56 | 42 | 93 | 146 | 130 | 187 | 167 | 159 | 204 | | 241 | 96 |
| 20 | 147 | 57 | 126 | 94 | 79 | 131 | 52 | 168 | 88 | 205 | | 242 | 160 |
| 21 | 76 | 58 | 130 | 95 | 209 | 132 | 92 | 169 | 232 | 206 | | 243 | 25 |
| 22 | 212 | 59 | 127 | 96 | 138 | 133 | 228 | 170 | 193 | 207 | | 244 | 43 |
| 23 | 133 | 60 | 129 | 97 | 103 | 134 | 213 | 171 | 186 | 208 | | 245 | 125 |
| 24 | 118 | 61 | 122 | 98 | 169 | 135 | 134 | 172 | 55 | 209 | | 246 | 135 |
| 25 | 154 | 62 | 142 | 99 | 2 | 136 | 115 | 173 | 89 | 210 | | 247 | 112 |
| 26 | 87 | 63 | 107 | 100 | 6 | 137 | 149 | 174 | 235 | 211 | | 248 | 144 |
| 27 | 249 | 64 | 189 | 101 | 10 | 138 | 70 | 175 | 196 | 212 | | 249 | 73 |
| 28 | 242 | 65 | 62 | 102 | 30 | 139 | 202 | 176 | 181 | 213 | | 250 | 219 |
| 29 | 239 | 66 | 66 | 103 | 34 | 140 | 167 | 177 | 38 | 214 | | 251 | 148 |
| 30 | 200 | 67 | 198 | 104 | 102 | 141 | 16 | 178 | 106 | 215 | | 252 | 69 |
| 31 | 161 | 68 | 179 | 105 | 170 | 142 | 48 | 179 | 190 | 216 | | 253 | 207 |
| 32 | 26 | 69 | 44 | 106 | 7 | 143 | 80 | 180 | 59 | 217 | | 254 | 168 |
| 33 | 46 | 70 | 116 | 107 | 9 | 144 | 240 | 181 | 77 | 218 | | * | 0 |
| 34 | 114 | 71 | 156 | 108 | 27 | 145 | 233 | 182 | 215 | 219 | | | |
| 35 | 150 | 72 | 93 | 109 | 45 | 146 | 194 | 183 | 128 | 220 | | | |
| 36 | 67 | 73 | 231 | 110 | 119 | 147 | 191 | 184 | 121 | 221 | . 31 | | |

Logarithm table for GF(256) with irreducible polynomial 505 (0x1F9)

by Cody Planteen; https://codyplanteen.com/notes/rs; June 24, 2019

$$F(x) = x^8 + x^7 + x^6 + x^5 + x^4 + x^3 + 1, \ \alpha = x + 1 = 3 = 0 \text{x03}$$

Example: $35 \cdot 36 = \alpha^{39} \alpha^{50} = \alpha^{89} = 250$

| | | | | | | | | | | | | | |
|---------------------|-----|--------------|-----|--------------|-----|--------------|-----|--------------|-----|--------------|-----|--------------|-----|
| $\frac{\alpha^j}{}$ | j | α^{j} | j |
| 0 | * | 37 | 53 | 74 | 152 | 111 | 54 | 148 | 251 | 185 | 86 | 222 | 153 |
| 1 | 0 | 38 | 177 | 75 | 191 | 112 | 247 | 149 | 137 | 186 | 171 | 223 | 119 |
| 2 | 99 | 39 | 128 | 76 | 21 | 113 | 19 | 150 | 35 | 187 | 130 | 224 | 91 |
| 3 | 1 | 40 | 44 | 77 | 181 | 114 | 34 | 151 | 83 | 188 | 216 | 225 | 81 |
| 4 | 198 | 41 | 13 | 78 | 227 | 115 | 136 | 152 | 120 | 189 | 64 | 226 | 118 |
| 5 | 2 | 42 | 56 | 79 | 94 | 116 | 70 | 153 | 111 | 190 | 179 | 227 | 114 |
| 6 | 100 | 43 | 244 | 80 | 143 | 117 | 166 | 154 | 25 | 191 | 147 | 228 | 133 |
| 7 | 106 | 44 | 69 | 81 | 121 | 118 | 24 | 155 | 154 | 192 | 85 | 229 | 161 |
| 8 | 42 | 45 | 109 | 82 | 112 | 119 | 110 | 156 | 71 | 193 | 170 | 230 | 235 |
| 9 | 107 | 46 | 33 | 83 | 233 | 120 | 45 | 157 | 116 | 194 | 146 | 231 | 73 |
| 10 | 101 | 47 | 18 | 84 | 155 | 121 | 184 | 158 | 193 | 195 | 215 | 232 | 169 |
| 11 | 126 | 48 | 142 | 85 | 6 | 122 | 61 | 159 | 167 | 196 | 175 | 233 | 145 |
| 12 | 199 | 49 | 232 | 86 | 88 | 123 | 14 | 160 | 242 | 197 | 37 | 234 | 10 |
| 13 | 188 | 50 | 87 | 87 | 26 | 124 | 164 | 161 | 31 | 198 | 67 | 235 | 174 |
| 14 | 205 | 51 | 5 | 88 | 168 | 125 | 245 | 162 | 220 | 199 | 11 | 236 | 123 |
| 15 | 3 | 52 | 131 | 89 | 173 | 126 | 57 | 163 | 48 | 200 | 30 | 237 | 195 |
| 16 | 141 | 53 | 79 | 90 | 208 | 127 | 59 | 164 | 211 | 201 | 219 | 238 | 209 |
| 17 | 4 | 54 | 207 | 91 | 194 | 128 | 183 | 165 | 224 | 202 | 139 | 239 | 29 |
| 18 | 206 | 55 | 172 | 92 | 132 | 129 | 60 | 166 | 77 | 203 | 210 | 240 | 144 |
| 19 | 78 | 56 | 148 | 93 | 72 | 130 | 58 | 167 | 140 | 204 | 203 | 241 | 9 |
| 20 | 200 | 57 | 190 | 94 | 117 | 131 | 163 | 168 | 254 | 205 | 124 | 242 | 28 |
| 21 | 212 | 58 | 226 | 95 | 80 | 132 | 165 | 169 | 98 | 206 | 196 | 243 | 122 |
| 22 | 225 | 59 | 180 | 96 | 241 | 133 | 23 | 170 | 105 | 207 | 253 | 244 | 160 |
| 23 | 189 | 60 | 201 | 97 | 47 | 134 | 135 | 171 | 197 | 208 | 74 | 245 | 234 |
| 24 | 43 | 61 | 217 | 98 | 76 | 135 | 246 | 172 | 187 | 209 | 95 | 246 | 113 |
| 25 | 243 | 62 | 65 | 99 | 223 | 136 | 46 | 173 | 204 | 210 | 228 | 247 | 90 |
| 26 | 32 | 63 | 213 | 100 | 186 | 137 | 75 | 174 | 125 | 211 | 236 | 248 | 8 |
| 27 | 108 | 64 | 84 | 101 | 40 | 138 | 96 | 175 | 41 | 212 | 22 | 249 | 27 |
| 28 | 49 | 65 | 214 | 102 | 104 | 139 | 185 | 176 | 12 | 213 | 134 | 250 | 89 |
| 29 | 127 | 66 | 66 | 103 | 97 | 140 | 237 | 177 | 55 | 214 | 162 | 251 | 159 |
| 30 | 102 | 67 | 36 | 104 | 230 | 141 | 15 | 178 | 17 | 215 | 182 | 252 | 156 |
| 31 | 221 | 68 | 202 | 105 | 129 | 142 | 62 | 179 | 68 | 216 | 150 | 253 | 157 |
| 32 | 240 | 69 | 252 | 106 | 178 | 143 | 229 | 180 | 52 | 217 | 92 | 254 | 158 |
| 33 | 222 | 70 | 138 | 107 | 63 | 144 | 248 | 181 | 176 | 218 | 82 | 255 | 7 |
| 34 | 103 | 71 | 218 | 108 | 51 | 145 | 151 | 182 | 38 | 219 | 250 | | |
| 35 | 39 | 72 | 149 | 109 | 238 | 146 | 93 | 183 | 239 | 220 | 115 | | |
| 36 | 50 | 73 | 249 | 110 | 16 | 147 | 20 | 184 | 231 | 221 | 192 | | |