

Northern Hemisphere

Leap years 2020, 2024, 2028, 2032, 2036, 2040

ST = Standard Time

DST = Daylight Savings Time

Day # (from Dec21), Day/month,

+ 1 min/- 1 min(add to or subtract from Standard Time,

= Standard time plus x minutes (shift toward or from Daylight savings time)

WS = Winter Solstice

SEQ = Spring Equinox

SS = Summer Solstice

FEQ = Fall Equinox

WINTER SOLSTICE

| | | | | |
|--------|--------|---------|-----------|----|
| Day 0 | Dec 21 | 0 min | = ST + 0m | WS |
| Day 1 | Dec 22 | | | |
| Day 2 | Dec 23 | | | |
| Day 3 | Dec 24 | + 1 min | = ST + 1m | |
| Day 4 | Dec 25 | | | |
| Day 5 | Dec 26 | | | |
| Day 6 | Dec 27 | + 1 min | = ST + 2m | |
| Day 7 | Dec 28 | | | |
| Day 8 | Dec 29 | | | |
| Day 9 | Dec 30 | + 1 min | = ST + 3m | |
| Day 10 | Dec 31 | | | |
| Day 11 | Jan 1 | | | |
| Day 12 | Jan 2 | + 1 min | = ST + 4m | |
| Day 13 | Jan 3 | | | |
| Day 14 | Jan 4 | | | |
| Day 15 | Jan 5 | + 1 min | = ST + 5m | |
| Day 16 | Jan 6 | | | |
| Day 17 | Jan 7 | | | |

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|--------|--------|---------|------------|
| Day 18 | Jan 8 | + 1 min | = ST + 6m |
| Day 19 | Jan 9 | | |
| Day 20 | Jan 10 | | |
| Day 21 | Jan 11 | + 1 min | = ST + 7m |
| Day 22 | Jan 12 | | |
| Day 23 | Jan 13 | | |
| Day 24 | Jan 14 | + 1 min | = ST + 8m |
| Day 25 | Jan 15 | | |
| Day 26 | Jan 16 | | |
| Day 27 | Jan 17 | + 1 min | = ST + 9m |
| Day 28 | Jan 18 | | |
| Day 29 | Jan 19 | | |
| Day 30 | Jan 20 | + 1 min | = ST + 10m |
| Day 31 | Jan 21 | | |
| Day 32 | Jan 22 | | |
| Day 33 | Jan 23 | + 1 min | = ST + 11m |
| Day 34 | Jan 24 | | |
| Day 35 | Jan 25 | | |
| Day 36 | Jan 26 | + 1 min | = ST + 12m |
| Day 37 | Jan 27 | | |
| Day 38 | Jan 28 | | |
| Day 39 | Jan 29 | + 1 min | = ST + 13m |
| Day 40 | Jan 30 | | |
| Day 41 | Jan 31 | | |
| Day 42 | Feb 1 | + 1 min | = ST + 14m |
| Day 43 | Feb 2 | | |
| Day 44 | Feb 3 | | |
| Day 45 | Feb 4 | + 1 min | = ST + 15m |
| Day 46 | Feb 5 | | |
| Day 47 | Feb 6 | | |
| Day 48 | Feb 7 | + 1 min | = ST + 16m |
| Day 49 | Feb 8 | | |
| Day 50 | Feb 9 | | |
| Day 51 | Feb 10 | + 1 min | = ST + 17m |
| Day 52 | Feb 11 | | |
| Day 53 | Feb 12 | | |
| Day 54 | Feb 13 | + 1 min | = ST + 18m |
| Day 55 | Feb 14 | | |
| Day 56 | Feb 15 | | |
| Day 57 | Feb 16 | + 1 min | = ST + 19m |
| Day 58 | Feb 17 | | |
| Day 59 | Feb 18 | | |
| Day 60 | Feb 19 | + 1 min | = ST + 20m |
| Day 61 | Feb 20 | | |
| Day 62 | Feb 21 | | |
| Day 63 | Feb 22 | + 1 min | = ST + 21m |
| Day 64 | Feb 23 | | |
| Day 65 | Feb 24 | | |

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|--------|--------|--|------------|
| Day 66 | Feb 25 | + 1 min | = ST + 22m |
| Day 67 | Feb 26 | | |
| Day 68 | Feb 27 | | |
| Day 69 | Feb 28 | + 1 min | = ST + 23m |
| Day 70 | Feb 29 | Leap year, do nothing. Skip if not leap year | |

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|---------|--------|---------|------------|
| Day 71 | Mar 1 | | |
| Day 72 | Mar 2 | + 1 min | = ST + 24m |
| Day 73 | Mar 3 | | |
| Day 74 | Mar 4 | | |
| Day 75 | Mar 5 | + 1 min | = ST + 25m |
| Day 76 | Mar 6 | | |
| Day 77 | Mar 7 | | |
| Day 78 | Mar 8 | + 1 min | = ST + 26m |
| Day 79 | Mar 9 | | |
| Day 80 | Mar 10 | | |
| Day 81 | Mar 11 | + 1 min | = ST + 27m |
| Day 82 | Mar 12 | | |
| Day 83 | Mar 13 | | |
| Day 84 | Mar 14 | + 1 min | = ST + 28m |
| Day 85 | Mar 15 | | |
| Day 86 | Mar 16 | | |
| Day 87 | Mar 17 | + 1 min | = ST + 29m |
| Day 88 | Mar 18 | | |
| Day 89 | Mar 19 | | |
| Day 90 | Mar 20 | + 1 min | = ST + 30 |
| Day 91 | Mar 21 | | |
| Day 92 | Mar 22 | | |
| Day 93 | Mar 23 | + 1 min | = ST + 31m |
| Day 94 | Mar 24 | | |
| Day 95 | Mar 25 | | |
| Day 96 | Mar 26 | + 1 min | = ST + 32m |
| Day 97 | Mar 27 | | |
| Day 98 | Mar 28 | | |
| Day 99 | Mar 29 | + 1 min | = ST + 33m |
| Day 100 | Mar 30 | | |
| Day 101 | Mar 31 | | |

SEQ

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|---------|--------|---------|------------|
| Day 102 | Apr 1 | + 1 min | = ST + 34m |
| Day 103 | Apr 2 | | |
| Day 104 | Apr 3 | | |
| Day 105 | Apr 4 | + 1 min | = ST + 35m |
| Day 106 | Apr 5 | | |
| Day 107 | Apr 6 | | |
| Day 108 | Apr 7 | + 1 min | = ST + 36m |
| Day 109 | Apr 8 | | |
| Day 110 | Apr 9 | | |
| Day 111 | Apr 10 | + 1 min | = ST + 37m |
| Day 112 | Apr 11 | | |

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|---------|--------|---------|------------|
| Day 113 | Apr 12 | | |
| Day 114 | Apr 13 | + 1 min | = ST + 38m |
| Day 115 | Apr 14 | | |
| Day 116 | Apr 15 | | |
| Day 117 | Apr 16 | + 1 min | = ST + 39m |
| Day 118 | Apr 17 | | |
| Day 119 | Apr 18 | | |
| Day 120 | Apr 19 | + 1 min | = ST + 40m |
| Day 121 | Apr 20 | | |
| Day 122 | Apr 21 | | |
| Day 123 | Apr 22 | + 1 min | = ST + 41m |
| Day 124 | Apr 23 | | |
| Day 125 | Apr 24 | | |
| Day 126 | Apr 25 | + 1 min | = ST + 42m |
| Day 127 | Apr 26 | | |
| Day 128 | Apr 27 | | |
| Day 129 | Apr 28 | + 1 min | = ST + 43m |
| Day 130 | Apr 29 | | |
| Day 131 | Apr 30 | | |
| Day 132 | May 1 | + 1 min | = ST + 44m |
| Day 133 | May 2 | | |
| Day 134 | May 3 | | |
| Day 135 | May 4 | + 1 min | = ST + 45m |
| Day 136 | May 5 | | |
| Day 137 | May 6 | | |
| Day 138 | May 7 | + 1 min | = ST + 46m |
| Day 139 | May 8 | | |
| Day 140 | May 9 | | |
| Day 141 | May 10 | + 1 min | = ST + 47m |
| Day 142 | May 11 | | |
| Day 143 | May 12 | | |
| Day 144 | May 13 | + 1 min | = ST + 48m |
| Day 145 | May 14 | | |
| Day 146 | May 15 | | |
| Day 147 | May 16 | + 1 min | = ST + 49m |
| Day 148 | May 17 | | |
| Day 149 | May 18 | | |
| Day 150 | May 19 | + 1 min | = ST + 50m |
| Day 151 | May 20 | | |
| Day 152 | May 21 | | |
| Day 153 | May 22 | + 1 min | = ST + 51m |
| Day 154 | May 23 | | |
| Day 155 | May 24 | | |
| Day 156 | May 25 | + 1 min | = ST + 52m |
| Day 157 | May 26 | | |
| Day 158 | May 27 | | |
| Day 159 | May 28 | + 1 min | = ST + 53m |
| Day 160 | May 29 | | |

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|---------|---------|---------|------------|
| Day 161 | May 30 | | |
| Day 162 | May 31 | + 1 min | = ST + 54m |
| Day 163 | June 1 | | |
| Day 164 | June 2 | | |
| Day 165 | June 3 | + 1 min | = ST + 55m |
| Day 166 | June 4 | | |
| Day 167 | June 5 | | |
| Day 168 | June 6 | + 1 min | = ST + 56m |
| Day 169 | June 7 | | |
| Day 170 | June 8 | | |
| Day 171 | June 9 | + 1 min | = ST + 57m |
| Day 172 | June 10 | | |
| Day 173 | June 11 | | |
| Day 174 | June 12 | + 1 min | = ST + 58m |
| Day 175 | June 13 | | |
| Day 176 | June 14 | | |
| Day 177 | June 15 | + 1 min | = ST + 59m |
| Day 178 | June 16 | | |
| Day 179 | June 17 | | |
| Day 180 | June 18 | + 1 min | = ST + 60m |
| Day 181 | June 19 | | |
| Day 182 | June 20 | | |

SUMMER SOLSTICE

| | | | | |
|---------|---------|---------|------------|----|
| Day 183 | June 21 | | | SS |
| Day 184 | June 22 | | | |
| Day 185 | June 23 | - 1 min | = ST + 59m | |
| Day 186 | June 24 | | | |
| Day 187 | June 25 | | | |
| Day 188 | June 26 | - 1 min | = ST +58m | |
| Day 189 | June 27 | | | |
| Day 190 | June 28 | | | |
| Day 191 | June 29 | - 1 min | = ST + 57m | |
| Day 192 | June 30 | | | |
| Day 193 | July 1 | | | |
| Day 194 | July 2 | - 1 min | = ST + 56m | |
| Day 195 | July 3 | | | |
| Day 196 | July 4 | | | |
| Day 197 | July 5 | - 1 min | = ST + 55m | |
| Day 198 | July 6 | | | |
| Day 199 | July 7 | | | |
| Day 200 | July 8 | - 1 min | = ST + 54m | |

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|---------|---------|---------|------------|
| Day 201 | July 9 | | |
| Day 202 | July 10 | | |
| Day 203 | July 11 | - 1 min | = ST + 53m |
| Day 204 | July 12 | | |
| Day 205 | July 13 | | |
| Day 206 | July 14 | - 1 min | = ST + 52m |
| Day 207 | July 15 | | |
| Day 208 | July 16 | | |
| Day 209 | July 17 | - 1 min | = ST + 51m |
| Day 210 | July 18 | | |
| Day 211 | July 19 | | |
| Day 212 | July 20 | - 1 min | = ST + 50m |
| Day 213 | July 21 | | |
| Day 214 | July 22 | | |
| Day 215 | July 23 | - 1 min | = ST + 49m |
| Day 216 | July 24 | | |
| Day 217 | July 25 | | |
| Day 218 | July 26 | - 1 min | = ST + 48m |
| Day 219 | July 27 | | |
| Day 220 | July 28 | | |
| Day 221 | July 29 | - 1 min | = ST + 47m |
| Day 222 | July 30 | | |
| Day 223 | July 31 | | |
| | | | |
| Day 224 | Aug 1 | - 1 min | = ST + 46m |
| Day 225 | Aug 2 | | |
| Day 226 | Aug 3 | | |
| Day 227 | Aug 4 | - 1 min | = ST + 45m |
| Day 228 | Aug 5 | | |
| Day 229 | Aug 6 | | |
| Day 230 | Aug 7 | - 1 min | = ST + 44m |
| Day 231 | Aug 8 | | |
| Day 232 | Aug 9 | | |
| Day 233 | Aug 10 | - 1 min | = ST + 43m |
| Day 234 | Aug 11 | | |
| Day 235 | Aug 12 | | |
| Day 236 | Aug 13 | - 1 min | = ST + 42m |
| Day 237 | Aug 14 | | |
| Day 238 | Aug 15 | | |
| Day 239 | Aug 16 | - 1 min | = ST + 41m |
| Day 240 | Aug 17 | | |
| Day 241 | Aug 18 | | |
| Day 242 | Aug 19 | - 1 min | = ST + 40m |
| Day 243 | Aug 20 | | |
| Day 244 | Aug 21 | | |
| Day 245 | Aug 22 | - 1 min | = ST + 39m |
| Day 246 | Aug 23 | | |
| Day 247 | Aug 24 | | |
| Day 248 | Aug 25 | - 1 min | = ST + 38m |

Day 249 Aug 26
Day 250 Aug 27
Day 251 Aug 28 - 1 min = ST + 37m
Day 252 Aug 29
Day 253 Aug 30
Day 254 Aug 31 - 1 min = ST + 36m

Day 255 Sept 1
Day 256 Sept 2
Day 257 Sept 3 - 1 min = ST + 35m
Day 258 Sept 4
Day 259 Sept 5
Day 260 Sept 6 - 1 min = ST + 34m
Day 261 Sept 7
Day 262 Sept 8
Day 263 Sept 9 - 1 min = ST + 33m
Day 264 Sept 10
Day 265 Sept 11
Day 266 Sept 12 - 1 min = ST + 32m
Day 267 Sept 13
Day 268 Sept 14
Day 269 Sept 15 - 1 min = ST + 31m
Day 270 Sept 16
Day 271 Sept 17
Day 272 Sept 18 - 1 min = ST + 30m
Day 273 Sept 19
Day 274 Sept 20
Day 275 Sept 21
Day 276 Sept 22 - 1 min = ST + 29m
Day 277 Sept 23
Day 278 Sept 24
Day 279 Sept 25 -1 min = ST + 28m
Day 280 Sept 26
Day 281 Sept 27
Day 282 Sept 28 - 1 min = ST + 27m
Day 283 Sept 29
Day 284 Sept 30

FEQ

Day 285 Oct 1 - 1 min = ST + 26m
Day 286 Oct 2
Day 287 Oct 3
Day 288 Oct 4 - 1 min = ST + 25m
Day 289 Oct 5
Day 290 Oct 6
Day 291 Oct 7 - 1 min = ST + 24m
Day 292 Oct 8
Day 293 Oct 9
Day 294 Oct 10 - 1 min = ST + 23m
Day 295 Oct 11

| | | | |
|---------|--------|---------|------------|
| Day 296 | Oct 12 | | |
| Day 297 | Oct 13 | - 1 min | = ST + 22m |
| Day 298 | Oct 14 | | |
| Day 299 | Oct 15 | | |
| Day 300 | Oct 16 | - 1 min | = ST + 21m |
| Day 301 | Oct 17 | | |
| Day 302 | Oct 18 | | |
| Day 303 | Oct 19 | - 1 min | = ST + 20m |
| Day 304 | Oct 20 | | |
| Day 305 | Oct 21 | | |
| Day 306 | Oct 22 | - 1 min | = ST+ 19m |
| Day 307 | Oct 23 | | |
| Day 308 | Oct 24 | | |
| Day 309 | Oct 25 | - 1 min | = ST + 18m |
| Day 310 | Oct 26 | | |
| Day 311 | Oct 27 | | |
| Day 312 | Oct 28 | - 1 min | = ST + 17m |
| Day 313 | Oct 29 | | |
| Day 314 | Oct 30 | | |
| Day 315 | Oct 31 | - 1 min | = ST + 16m |

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|---------|--------|---------|------------|
| Day 316 | Nov 1 | | |
| Day 317 | Nov 2 | | |
| Day 318 | Nov 3 | - 1 min | = ST + 15m |
| Day 319 | Nov 4 | | |
| Day 320 | Nov 5 | | |
| Day 321 | Nov 6 | - 1 min | = ST +14m |
| Day 322 | Nov 7 | | |
| Day 323 | Nov 8 | | |
| Day 324 | Nov 9 | - 1 min | = ST + 13m |
| Day 325 | Nov 10 | | |
| Day 326 | Nov 11 | | |
| Day 327 | Nov 12 | - 1 min | = ST + 12m |
| Day 328 | Nov 13 | | |
| Day 329 | Nov 14 | | |
| Day 330 | Nov 15 | - 1 min | = ST + 11m |
| Day 331 | Nov 16 | | |
| Day 332 | Nov 17 | | |
| Day 333 | Nov 18 | - 1 min | = ST + 10m |
| Day 334 | Nov 19 | | |
| Day 335 | Nov 20 | | |
| Day 336 | Nov 21 | - 1 min | = ST + 9m |
| Day 337 | Nov 22 | | |
| Day 338 | Nov 23 | | |
| Day 339 | Nov 24 | - 1 min | = ST + 8m |
| Day 340 | Nov 25 | | |
| Day 341 | Nov 26 | | |
| Day 342 | Nov 27 | - 1 min | = ST + 7m |
| Day 343 | Nov 28 | | |

| | | | |
|---------|--------|---------|-----------|
| Day 344 | Nov 29 | | |
| Day 345 | Nov 30 | - 1 min | = ST + 6m |
| Day 346 | Dec 1 | | |
| Dec 347 | Dec 2 | | |
| Day 348 | Dec 3 | - 1 min | = ST + 5m |
| Day 349 | Dec 4 | | |
| Day 350 | Dec 5 | | |
| Day 351 | Dec 6 | - 1 min | = ST + 4m |
| Day 352 | Dec 7 | | |
| Day 353 | Dec 8 | | |
| Day 354 | Dec 9 | - 1 min | = ST + 3m |
| Day 355 | Dec 10 | | |
| Day 356 | Dec 11 | | |
| Day 357 | Dec 12 | - 1 min | = ST + 2m |
| Day 358 | Dec 13 | | |
| Day 359 | Dec 14 | | |
| Day 360 | Dec 15 | - 1 min | = ST + 1m |
| Day 361 | Dec 16 | | |
| Day 362 | Dec 17 | | |
| Day 363 | Dec 18 | - 1 min | = ST + 0m |
| Day 364 | Dec 19 | | |
| Day 365 | Dec 20 | | |