

Table of the Brightest Stars

- Source: Wikipedia
- In some cases, the luminosity values are rough approximations.
- ** indicates can't be seen from latitude of 40°N
- (ST) indicates “Summer Triangle” (WH) indicates “Winter Hexagon” (PS) indicates “Pointer Star”

	V Mag.	Name	Luminosity	Distance	Notes
1.	-1.46	Sirius	25 (times sun)	8.6 (l.y.)	in Canis Major (WH)
2.	-0.74	** Canopus	15,000	310	in Carina
3.	-0.27	** Alpha Centauri	1.5	4.4	in Centaurus
4.	-0.05	Arcturus	170	37	in Boötes
5.	0.03	Vega	40	25	in Lyra (ST)
6.	0.08	Capella	80	42	in Auriga (WH)
7.	0.13	Rigel	120,000	860	in Orion (WH)
8.	0.34	Procyon	7	11	in Canis Minor (WH)
9.	0.46	** Achernar	3200	140	in Eridanus
10.	0.42	Betelgeuse	120,000	640	in Orion
11.	0.61	** Agena (Hadar)	42,000	350	in Centaurus
12.	0.76	Altair	11	17	in Aquila (ST)
13.	0.76	** Acrux	25,000	320	in Southern Cross
14.	0.86	Aldebaran	500	65	in Taurus (WH)
15.	0.96	Antares	58,000	600	in Scorpio
16.	0.97	Spica	12,000	260	in Virgo
17.	1.14	Pollux	43	34	in Gemini (WH)
18.	1.16	Fomalhaut	17	25	in Piscis Austrini
19.	1.25	Deneb	200,000	2,600	in Cynus (ST)
20.	1.25	** Becrux	34,000	350	in Southern Cross
21.	1.39	Regulus	288	77	in Leo
24.	1.62	Castor	300	52	in Gemini
26.	1.64	Bellatrix	6400	240	in Orion
29.	1.69	Alnilam	400,000	2,000	in Orion's Belt
33.	1.77	Alnitak	250,000	820	in Orion's Belt
34.	1.79	Dubhe	320	120	in Ursa Major (PS)
48.	1.98	Polaris	2500	430	in Ursa Minor
49.	2.00	Hamal	90	66	in Aries
58.	2.09	Saiph	57,000	720	in Orion
66.	2.23	Mintaka	200,000	900	in Orion's Belt
80.	2.37	Merak	63	79	in Ursa Major (PS)

Notes regarding Stars

• Comparing stars

- A star's distance and brightness follows an inverse square law. E.g., if star A is 5 times further away than star B, then star A will appear (to us on Earth) $1/25$ as bright as star B.
- Look at Sirius, Aldebaran, Betelgeuse, and Alnilam (the middle of Orion's belt). They are at very different distances from us. Sirius (8.6 ly) is one of the closest stars to us. Aldebaran (65 ly) is about 7.5 times further away than is Sirius, and Betelgeuse (640 ly) is ten times further than Aldebaran. And Alnilam (2000 ly) is three times further away from us than is Betelgeuse.
- Alnilam's luminosity is estimated to be between 275, 000 and 537,000 times that of our Sun!
- The most luminous known star in our galaxy is believed to be WR 25, which is about 7,500 light-years from Earth. It is estimated to be approximately 6.3 million times brighter than the Sun.
- The largest known star in our galaxy is believed to be UY Scuti, which is 9,500 light years away from earth, and has an estimated radius of 2.4 billion km, which is 1,700 times greater than that of the sun, and 16 times further than the distance from the earth to the sun.

• Binary and Multiple Star Systems

- Many stars in the sky are actually part of binary, trinary, or multiple-star systems. We aren't really sure about the percentages, but it may be that the majority of stars have one or more partners.
- Castor is one of two bright stars in the constellation Gemini the Twins. It appears as a single star, but it's actually a famous multiple star system, containing *three pairs of binary stars* all six revolving in a complex way around a common center of mass.

• Galaxies

- It is believed that there are about 100 billion galaxies in the observable universe.
- We are in the Milky Way Galaxy, which is believed to be about 100,000 light years across, and contains about 300 billion stars.
- The Andromeda Galaxy is the nearest major galaxy to the Milky Way, which is about 2.5 million light years away from the Milky Way, and is believed to contain about a trillion stars.

