

## Solutions to App “Audio Sky Tours”, Episode 5

### The Winter Constellations

	Solution	Points
1	In the chart: Capella, Pollux, Procyon, Sirius, Rigel, Aldebaran.	3
2	The energy source of a star is limited. Hence a star can shine for a limited time only.	3
3	Nuclear fusion, hydrogen, helium, main-sequence stars.	3
4	The star centre contracts and starts this way a second nuclear fusion – the fusion of helium to carbon and oxygen.	2
5	It is very small (about the Earth's size!) and thus its surface is very small too.	1
6	Y has the 9fold radiative power because its surface is 9 times bigger.	1
7	Main-sequence star, red giant star, white dwarf star.	3
8	After the exhaustion of the last nuclear fusion process it has to have 1.5 Sun masses at least.	1
9	After the exhaustion of the last nuclear fusion it has to have about 3 Sun masses at least.	1
10	<p>a) Stars can build up stony planets only with heavy elements existing in the original gas and dust cloud. These elements can only be generated and spread around by supernovae.</p> <p>b) In this cold molecular cloud new stars develop. Some of them are surrounded by dust discs in which planets can develop.</p>	2

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