12 Problems for guided self-study

1) What high temperatures are the hottest parts of the airplane exposed to and what are those parts? (Case Study Paper)

2) How low can the temperatures be in the altitudes of normal operation? (Internet Research)

3) What are the causes of cyclic stress in a turbocharger during the operation of an aircraft? (Case Study Paper)

4) Which two material families are more or less absent in the Aerospace data subset of the database? (EduPack)

5) Which aerospace alloys have the highest specific strength? (EduPack)

6) Which aerospace alloys have the highest specific temperature dependent tensile strength at 900°C? (EduPack)

7) Which are the two main failure modes considered for the fan blades? (Case Study Paper)

8) Why is fatigue strength suitable for a performance index of turbine fan blades? (Case Study Paper)

9) When looking for high-temperature material, The *Maximum service temperature* property was used in a limit stage of the Case study. Should the value 950°C be inserted in the *minimum* or *maximum* box? (EduPack)

10) Are the technical ceramics of the chart best in fast fracture or centrifugal force performance? (Case Study)

11) Which elements in the composition of Inconel 713L are considered critical, except Co and Cr?. (EduPack/Internet Research)

12) Which are the top three producers of Co, according to the list of main mining areas. (Case study Paper/EduPack)

