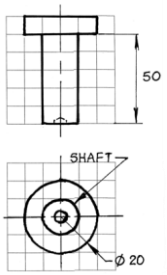
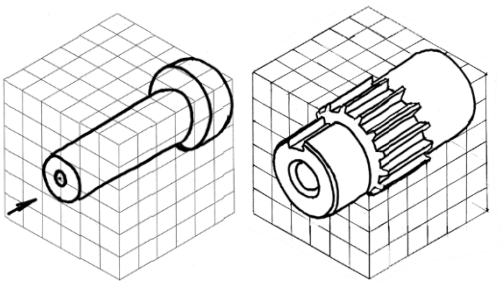
Engineering Graphics Overview - Features of Engineered Components

A Shaft and a Spline

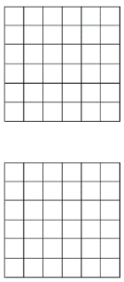
Q1 Describe the characteristics and an application of a ‘shaft’.
Redraw the orthogonal views and the pictorial view.

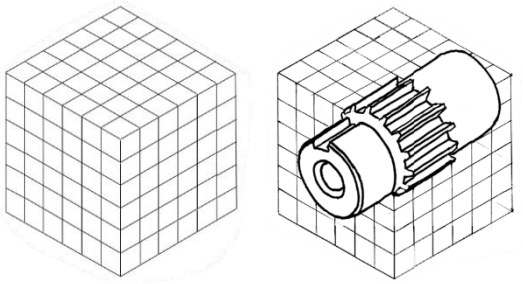




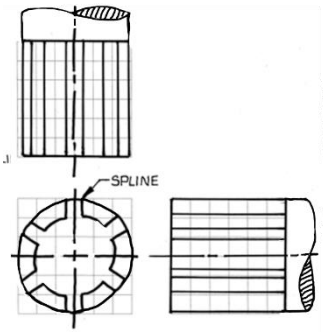
A Shaft

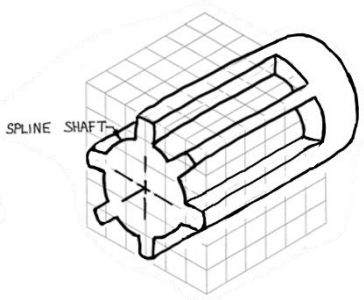
Redraw





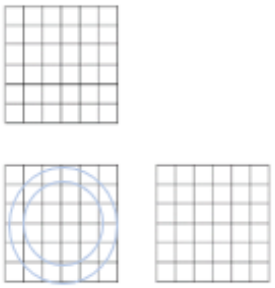
Q2 Describe the characteristics and an application of a ‘spline’.
Redraw the orthogonal views and the pictorial view.

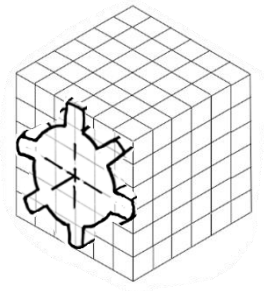


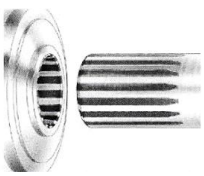


A Spline

Redraw







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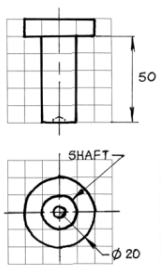
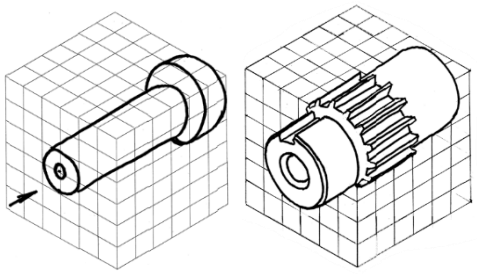
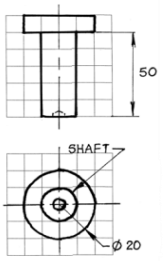
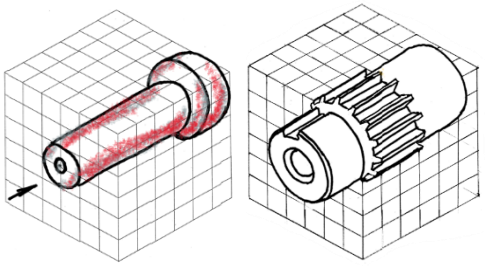




Redraw

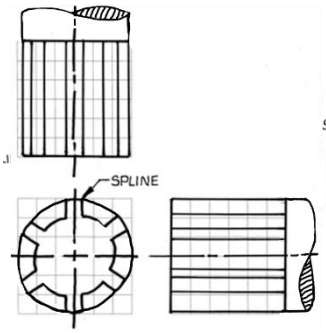


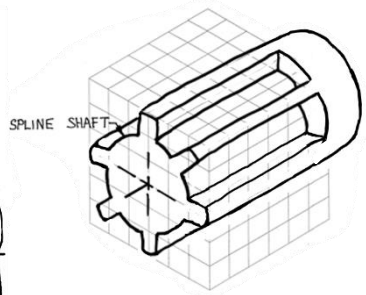


A Shaft

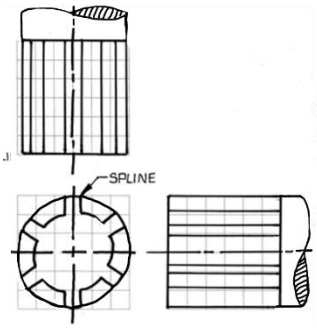
An shaft is an axle. A shaft rotates around its axis. Its axis is longer than its diameter. Components such as wheels, gears, pulleys, armatures and bearings are usually mounted on shafts. Shafts can contain machined in features such as splines and keyways. A more complex example is the crank shaft in a motor.

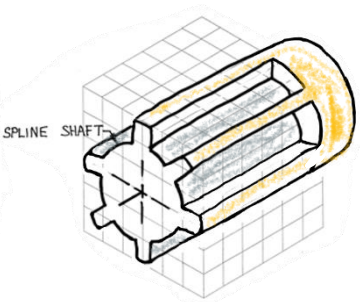
Q2 Describe the characteristics and an application of a 'spline'. Redraw the orthogonal views and the pictorial view.





Redraw





A Spline

A spline is a ridge that runs parallel to the axis of a shaft. It is typically used to couple a component onto a shaft. The splined shaft slides into a splined hole. The splines are typically created by cutting grooves into the shaft.