Task 1:

a) Π SID (σ (Class = 1 OR Class = 2) (Courses) ⋈ Gradebook)

b) Π SID (Students ⋈ (σ Class = 1 (Courses) ⋈ Gradebook) ∪ σ Surname = "Valdez" (Students))

c) Π SID (σ Class = 1 (Courses) ⋈ Gradebook) ∩ Π SID (σ Class = 2 (Courses) ⋈ Gradebook)

d) Π SID ((Π SID (Gradebook)) − (Π SID (Gradebook)) ∩ (Π SID (Students)))

e) Π SID ((Π SID (σ Class = 3 (Courses) ⋈ Gradebook)) − (Π SID (σ Class = 3 (Courses) ⋈ Gradebook)) ∩ (Π SID (Students)))

f) σ Mark1 > Mark2 (Π SID1, SID2, Mark1, Mark2 (Gradebook ⋈ Gradebook))

g) Π CID (σ count (SID) > 1 (Gradebook))

Task 2:

a)

Name
Clement
Warren

b) Warren

c) Since there are no courses of class 4 in the Courses table, the query will return an empty set.

d)

Name
Albion Fraley