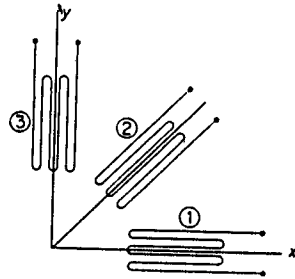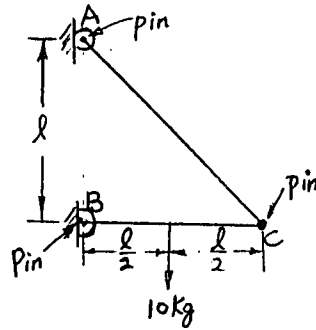1) A rectangular strain gage rosette (Fig. 1) gives the following results on the surface of a body : gauge 1 = 0.002, gauge 2 = 0.001, gauge 3 = - 0.004. What are the principal strains at the points? What is it's direction ? (25%)
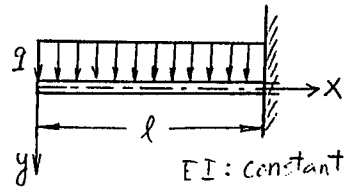
Figure 1

2) A <u>rigid</u> frame is subjected to a 10- kg load on truss BC (Fig. 2). Find the reacting forces at pins A and B. (25%)

Figure 2

3) Find the deflection of the uniformly loaded cantilever beam as shown in Fig. 3. (25%)

Figure 3

4) Compute the moments of inertia of the beam's cross-sectional area shown in Fig. 4 about the x and y centroidal axes. (25%)

Figure 4

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