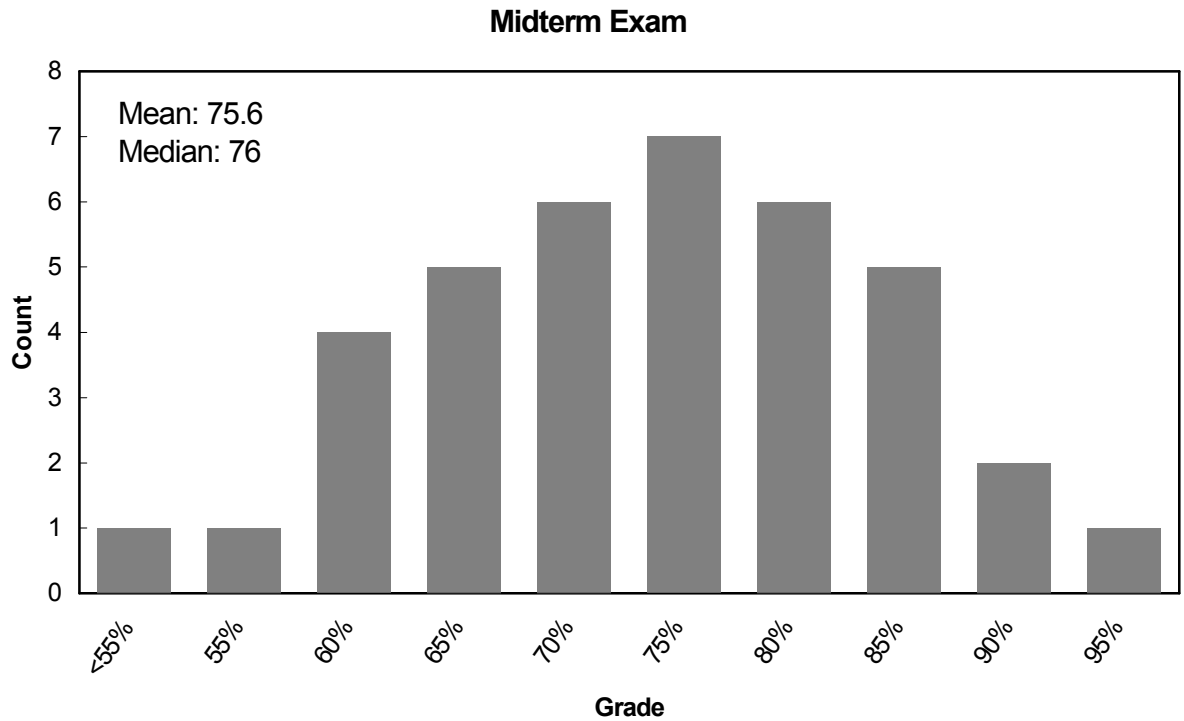

Answer Key:

1. d 2. b 3. b 4. a or c 5. d

6.1 $\sigma_x = 31$ MPa $\sigma_y = -33$ MPa $\tau_{xy} = 0$ MPa

6.2 $\sigma_1 = 31$ MPa $\sigma_2 = 0$ $\sigma_3 = -33$ MPa

6.3 $\tau_{max} = 32$ MPa $\sigma_{\tau 1} = -1$ MPa

6.4 $I_1 = -2$ MPa $I_2 = -1023$ MPa $I_3 = 0$

7.

Eng. Stress	True Stress	True Strain
127.3	127.3	1819
382.0	384.1	5442
1273.2	1571.9	210,721

8.1 $\sigma_z = -50$ MPa $\sigma_y = -18.5$ MPa $\sigma_x = 0$

$\varepsilon_z = -0.696$ $\varepsilon_y = 0$ $\varepsilon_x = 0.4088$

$\bar{s}_S = 50$ MPa $\bar{s}_H = 50$ MPa $X_S = 2$ $X_H = 2.28$

8.2 E' = 71.8 MPa 8.3 $\sigma_H = -22.8$ MPa

8.4 $\varepsilon_v = -0.287$ 8.5 B = 79.5 MPa