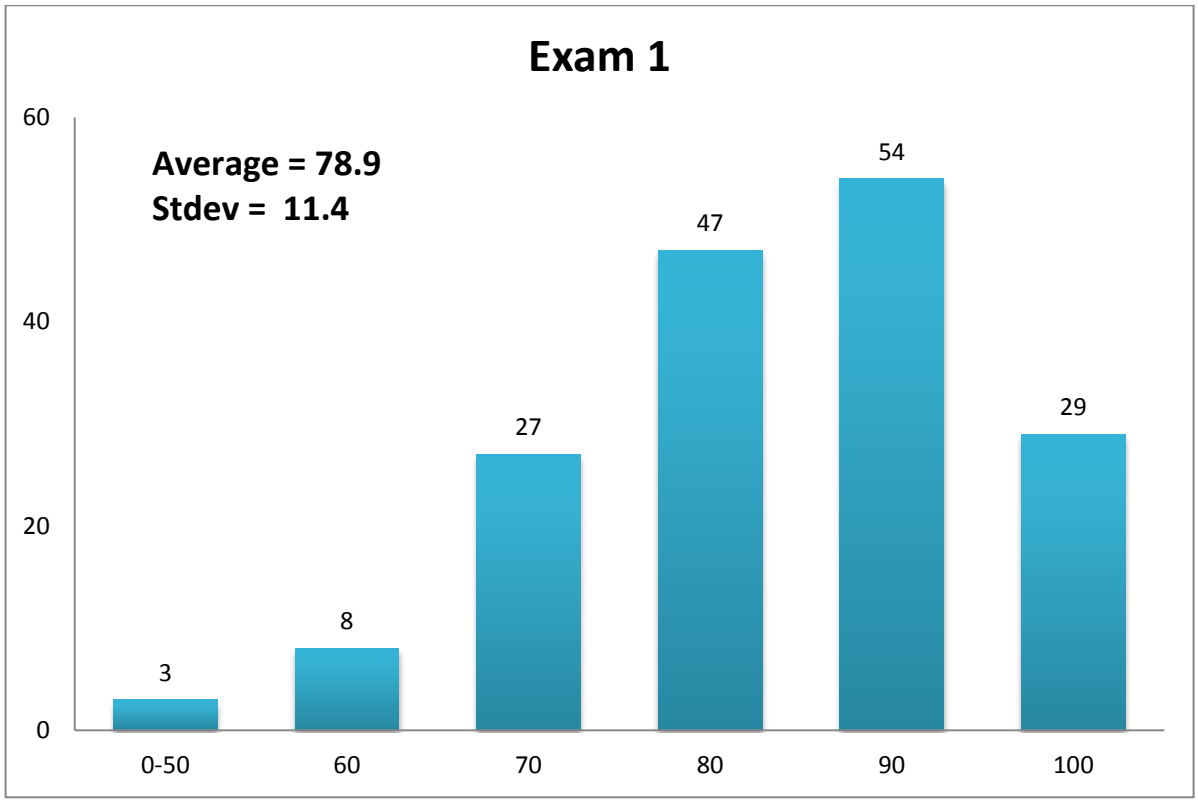
Report of Exam 1

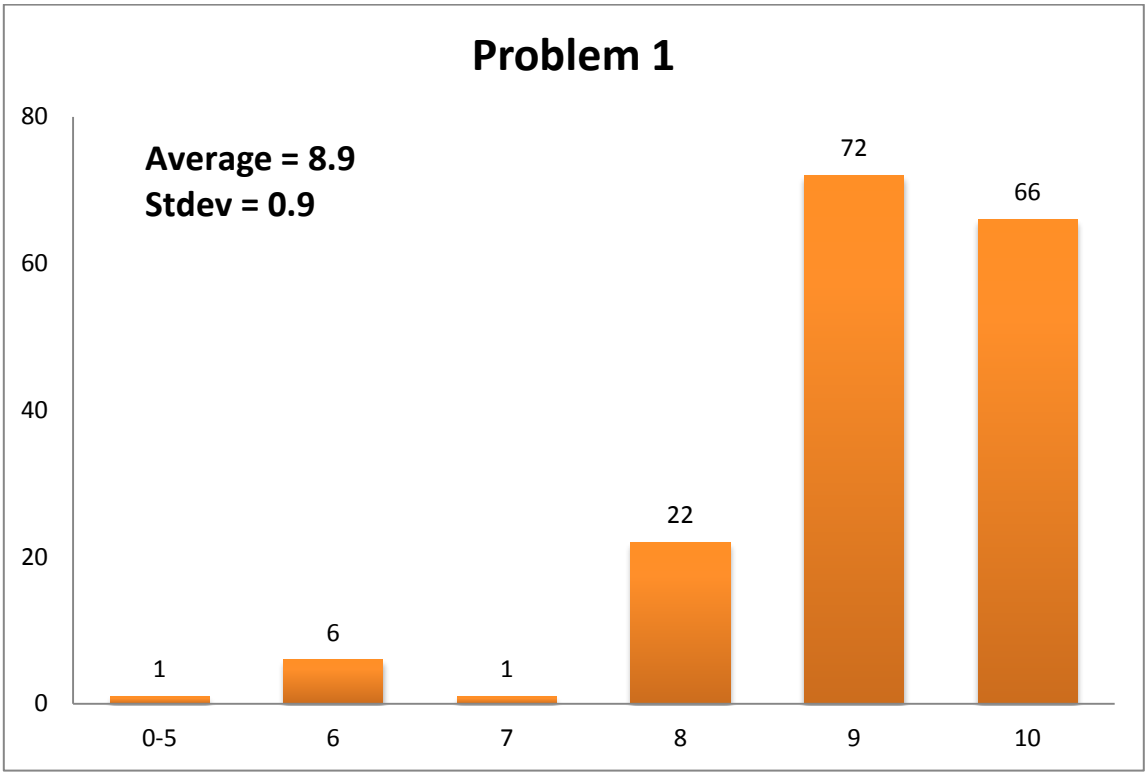
1. Summary

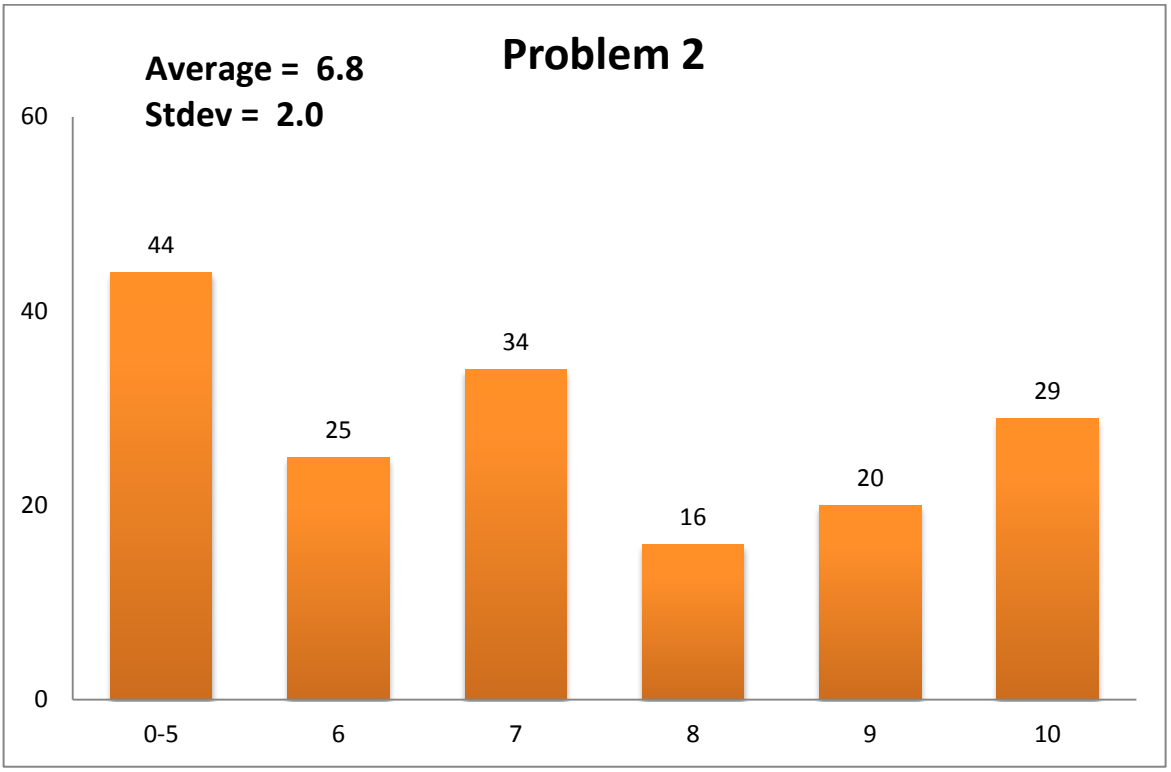
	Number of Students
Total	171
Attended	168
Missed	1
Makeup	2

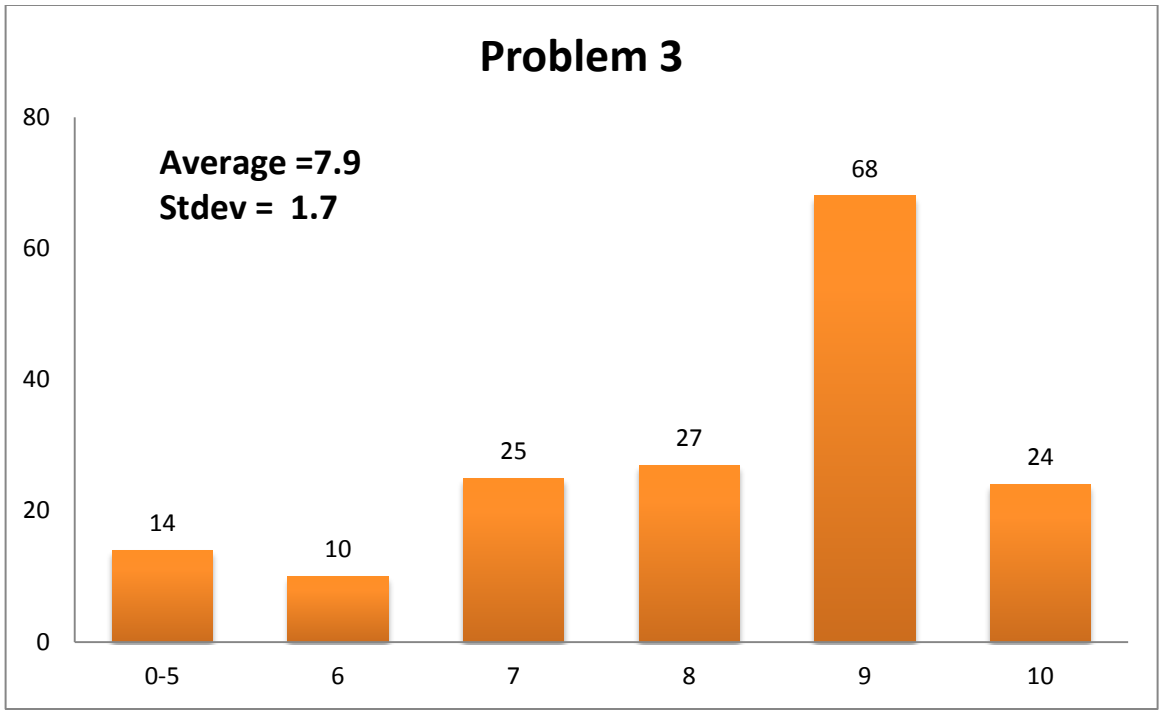
2. Overall distribution

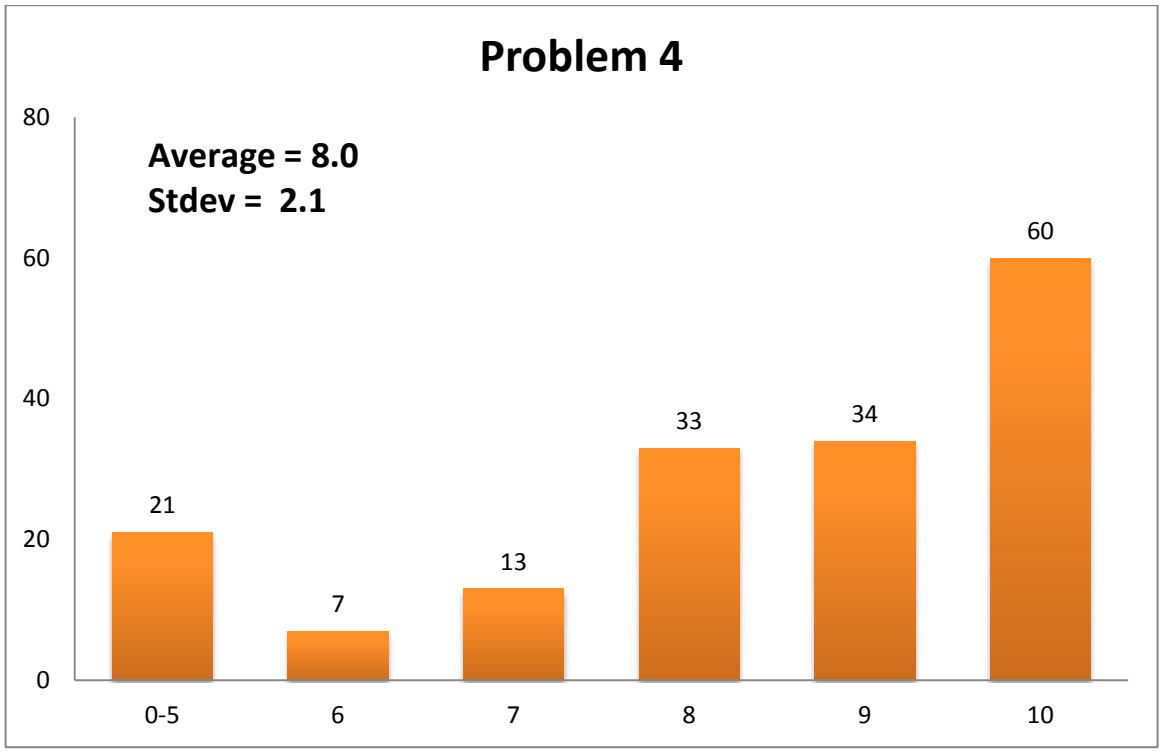


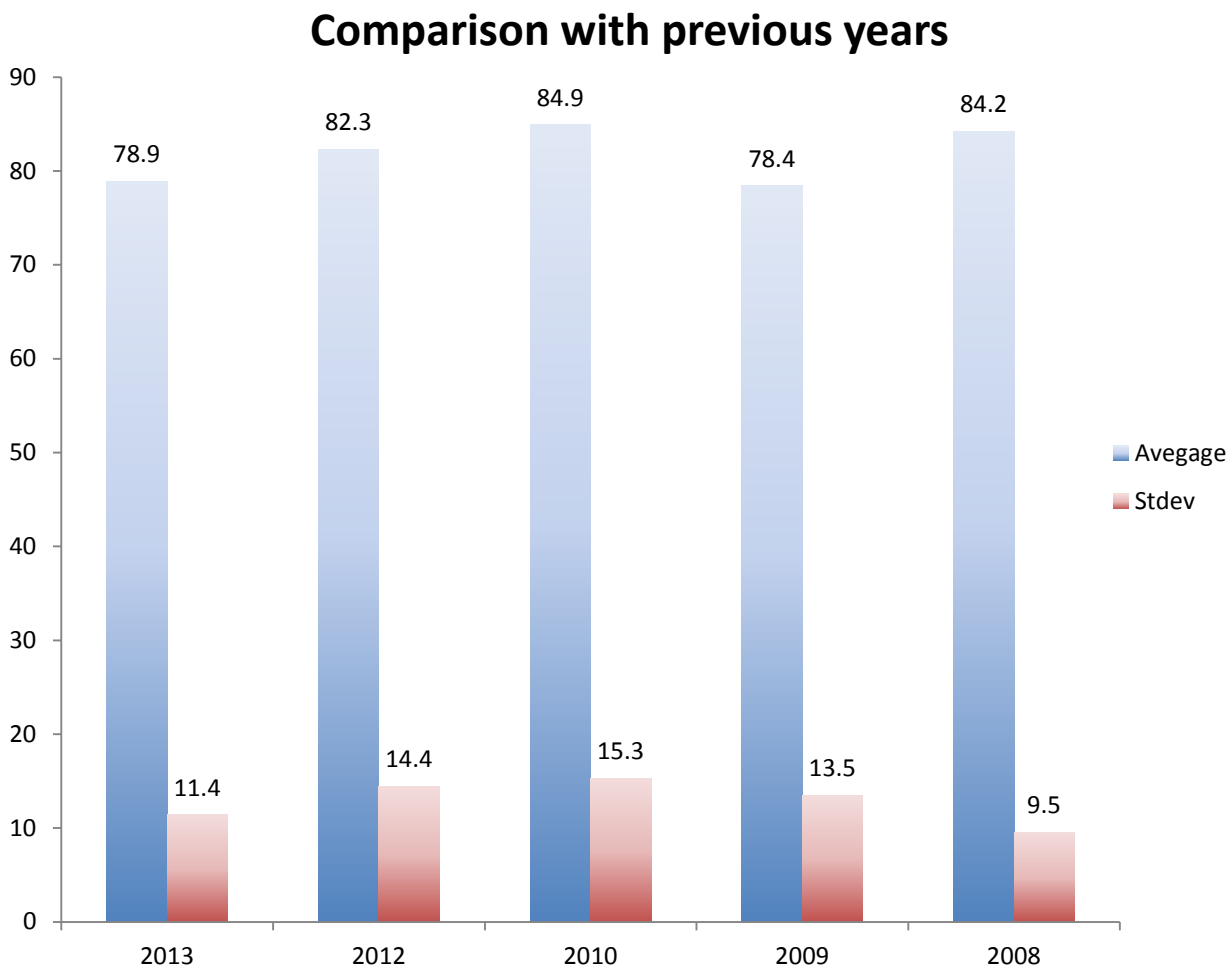
3. Distribution for each problem






Problem 3
Average =7.9
Stdev = 1.7
80
60
40
20
0
14
10
25
27
68
24
0-5
6
7
8
9
10


Problem 4
Average = 8.0
Stdev = 2.1
80
60
40
20
0
21
7
13
33
34
60
0-5
6
7
8
9
10



4. Common mistakes

1) Problem 1

- Failed to take derivative of the velocity function to get velocity gradient
- Mistake in unit conversion

2) Problem 2

- Determining the location of the vertical and horizontal components of the hydrostatic force, especially vertical force, (x location=4R/3π)

3) Problem 3
   - A lot of students fail to figure out manometer equation
4) Problem 4
   - Pressure gradient was regarded as scalar not the vector for x,y,z directions
   - Confusing the sign of gravitation acceleration

5. Comments

- The average and standard deviation for the average score over five years is 81.7 and 3.0, respectively. Therefore the average score for 2013 is within the standard deviation over the five years.
- The lowest score was observed for Problem 2 which asked to find the hydrostatic force components and their location on a curved surface. Students struggled to find the location of the forces. This is consistent with the pop-quiz #3.
- Last year's problem #2 was a planar surface problem whereas this year was for curved surface problem. This could explain the slight discrepancy between the average exam scores.
- Only few students made a mistake in their formula sheet.