

American Chemical Society Division of Chemical Education
Composite Norms – General Chemistry Conceptual Exam Form 2008
First Term Exam Only (40 items)

Score	Percentile
40 - - - - -	100
39 - - - - -	100
38 - - - - -	99
37 - - - - -	98
36 - - - - -	96
35 - - - - -	94
34 - - - - -	91
33 - - - - -	88
32 - - - - -	84
31 - - - - -	80
30 - - - - -	76
29 - - - - -	71
28 - - - - -	66
27 - - - - -	61
26 - - - - -	55
25 - - - - -	50
24 - - - - -	44
23 - - - - -	38
22 - - - - -	32
21 - - - - -	27
20 - - - - -	22
19 - - - - -	18
18 - - - - -	14

Score	Percentile
17 - - - - -	11
16 - - - - -	8
15 - - - - -	6
14 - - - - -	4
13 - - - - -	3
12 - - - - -	2
11 - - - - -	1
10 - - - - -	1
9 - - - - -	1
8 - - - - -	0
7 - - - - -	0
6 - - - - -	0
5 - - - - -	0
4 - - - - -	0
3 - - - - -	0
2 - - - - -	0
1 - - - - -	0
0 - - - - -	0
Mean	25.10
Std. deviation	6.39
Median	24.5
KR-21 reliability	0.79
Std error/meas	2.92

Based on the scores of 4962 students in 12 colleges.

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Second Term Exam Only (40 items)

Score	Percentile
40 - - - - -	100
39 - - - - -	100
38 - - - - -	100
37 - - - - -	99
36 - - - - -	99
35 - - - - -	97
34 - - - - -	96
33 - - - - -	95
32 - - - - -	93
31 - - - - -	91
30 - - - - -	89
29 - - - - -	85
28 - - - - -	81
27 - - - - -	76
26 - - - - -	72
25 - - - - -	66

Score	Percentile
17 - - - - -	22
16 - - - - -	17
15 - - - - -	12
14 - - - - -	9
13 - - - - -	6
12 - - - - -	3
11 - - - - -	2
10 - - - - -	1
9 - - - - -	0
8 - - - - -	0
7 - - - - -	0
6 - - - - -	0
5 - - - - -	0
4 - - - - -	0
3 - - - - -	0
2 - - - - -	0

24	60
23	55
22	49
21	43
20	38
19	32
18	26

1	0
0	0
Mean	22.37
Std. deviation	6.17
Median	21.7
KR-21 reliability	0.76
Std error/meas	3.02

Based on the scores of 999 students in 9 colleges.

**American Chemical Society Division of Chemical Education
Composite Norms – General Chemistry Conceptual Exam Form 2008
Full Year Exam (60 items)**

Score	Percentile
60	100
59	100
58	100
57	100
56	99
55	98
54	98
53	97
52	96
51	95
50	94
49	93
48	92
47	89
46	87
45	86
44	83
43	81
42	77
41	73
40	71
39	68

38	65
37	62
36	58
35	54
34	51
33	47
32	43
31	39
30	35
29	31
28	27
27	23
26	20
25	18
24	15
23	13
22	10
21	8
20	6
19	5
18	4
17	2

16	2
15	1
14	1
13	0
12	0
11	0
10	0
9	0
8	0
7	0
6	0
5	0
4	0
3	0
2	0
1	0
0	0
Mean	34.31
Std. deviation	9.54
Median	33.2
KR-21 reliability	0.85
Std error/meas	3.66

Based on the scores of 729 students in 10 colleges.