

## Intermediate Algebra Item Analysis Spring 2015

white	gold		Full Time		Part Time		Math 101		Math 120		Overall	
			Mean	St. Dev.	Mean	St. Dev.	Mean	St. Dev.	Mean	St. Dev.	Mean	St. Dev.
A	B											
1	22	absolute value inequality	0.30	0.46	0.27	0.44	0.33	0.47	0.14	0.35	0.27	0.44
2	2	distance rate time word problem	0.15	0.36	0.12	0.33	0.14	0.35	0.08	0.27	0.12	0.33
3	4	division by a monomial	0.21	0.41	0.18	0.38	0.19	0.39	0.16	0.36	0.18	0.38
4	7	complex fraction	0.30	0.46	0.16	0.37	0.20	0.40	0.13	0.33	0.17	0.38
5	9	rationalize the denominator	0.52	0.50	0.33	0.47	0.39	0.49	0.26	0.44	0.35	0.48
6	1	multiply polynomial w/ rational exponents	0.61	0.49	0.56	0.50	0.56	0.50	0.57	0.49	0.56	0.50
7	19	graph a system of linear inequalities	0.24	0.43	0.25	0.43	0.25	0.43	0.24	0.43	0.25	0.43
8	10	synthetic division	0.45	0.50	0.34	0.47	0.36	0.48	0.31	0.46	0.34	0.47
9	3	solve a quadratic inequality	0.42	0.49	0.42	0.49	0.40	0.49	0.47	0.50	0.42	0.49
10	12	solve a quadratic equation	0.58	0.49	0.44	0.50	0.49	0.50	0.38	0.48	0.45	0.50
11	14	solve a radical equation	0.24	0.43	0.34	0.47	0.35	0.48	0.30	0.46	0.34	0.47
12	15	3 x 3 Cramer's rule	0.39	0.49	0.25	0.43	0.27	0.44	0.24	0.43	0.26	0.44
13	13	find the equation of a line (perpendicular)	0.45	0.50	0.41	0.49	0.43	0.50	0.37	0.48	0.41	0.49
14	16	composition of functions	0.33	0.47	0.30	0.46	0.33	0.47	0.26	0.44	0.31	0.46
15	17	number word problem	0.52	0.50	0.41	0.49	0.44	0.50	0.36	0.48	0.42	0.49
16	26	solve a 3rd degree equation by factoring	0.24	0.43	0.21	0.41	0.24	0.43	0.16	0.36	0.21	0.41
17	11	find inverse equation	0.33	0.47	0.35	0.48	0.34	0.48	0.36	0.48	0.35	0.48
18	18	expand a logarithmic expression	0.36	0.48	0.31	0.46	0.32	0.47	0.30	0.46	0.31	0.46
19	20	interest word problem (compound)	0.39	0.49	0.22	0.41	0.24	0.43	0.21	0.41	0.23	0.42
20	21	find a term of an arithmetic sequence	0.58	0.49	0.54	0.50	0.51	0.50	0.62	0.49	0.55	0.50
21	25	find the finite sum of a geometric sequence	0.36	0.48	0.39	0.49	0.38	0.49	0.42	0.49	0.39	0.49
22	6	graph a parabola	0.27	0.45	0.27	0.44	0.28	0.45	0.23	0.42	0.27	0.44
23	5	graph a hyperbola	0.24	0.43	0.25	0.43	0.25	0.43	0.23	0.42	0.25	0.43
24	27	solve a system of non-linear equations	0.52	0.50	0.32	0.47	0.35	0.48	0.30	0.46	0.33	0.47
25	23	find a term in binomial expansion	0.45	0.50	0.16	0.37	0.23	0.42	0.10	0.30	0.19	0.39
26	24	velocity word problem (quadratic)	0.06	0.24	0.06	0.24	0.07	0.25	0.04	0.19	0.06	0.24
27	8	solve a rational equation	0.39	0.49	0.21	0.40	0.27	0.45	0.11	0.31	0.22	0.41

Math 101/129 Common Final Exam  
Spring 2015

		exam mean 8.1555	mean GPA 2.27521													
		exam st. dev 5.1823	GPA st. dev. 1.2113													
	COURSE	FT/PT	enrolled on census (students who got grade AND "W"s	received grade	# students took final	passed	exam mean	exam z score	course GPA for stds took final	course z score	course z - exam z	success	retention	pass rate per completed	pass rate for stds that took final	
1	101	FT	42	32	26	17	7.320	-0.822	2.040	-0.990	-0.168	0.40	0.76	0.53	0.65	
2	101	FT	13	13	11	11	15.364	4.613	2.818	1.487	-3.127	0.85	1.00	0.85	1.00	
	<b>MEAN FT</b>		<b>27.5</b>	<b>22.5</b>	<b>18.5</b>	<b>14</b>	<b>11.342</b>	<b>1.896</b>	<b>2.429</b>			<b>0.625</b>	<b>0.881</b>	<b>0.6887</b>	<b>0.83</b>	
1	101	PT	38	28	24	11	8.625	0.444	1.676	-2.422	-2.865	0.29	0.74	0.39	0.46	
2	101	PT	49	47	46	42	8.087	-0.090	2.870	3.328	3.418	0.86	0.96	0.89	0.91	
3	101	PT	39	20	19	14	8.947	0.666	2.000	-0.990	-1.656	0.36	0.51	0.70	0.74	
4	101	PT	40	34	28	15	7.643	-0.523	1.643	-2.762	-2.239	0.38	0.85	0.44	0.54	
5	101	PT	39	29	28	14	7.222	-0.953	1.704	-2.497	-1.544	0.36	0.74	0.48	0.50	
6	101	PT	42	23	20	18	11.421	2.818	2.368	0.344	-2.474	0.43	0.55	0.78	0.90	
7	101	PT	37	31	26	22	7.577	-0.569	2.654	1.594	2.163	0.59	0.84	0.71	0.85	
8	101	PT	36	24	24	17	11.583	3.240	1.958	-1.282	-4.522	0.47	0.67	0.71	0.71	
9	101	PT	45	36	36	31	6.086	-2.396	2.514	1.184	3.581	0.69	0.80	0.86	0.86	
10	101	PT	28	18	15	9	9.357	0.898	2.071	-0.652	-1.550	0.32	0.64	0.50	0.60	
11	101	PT	42	31	26	24	8.615	0.453	2.654	1.594	1.141	0.57	0.74	0.77	0.92	
12	120	PT	44	43	40	38	6.675	-1.807	2.650	1.957	3.764	0.86	0.98	0.88	0.95	
13	120	PT	34	27	19	15	7.737	-0.352	2.316	0.146	0.498	0.44	0.79	0.56	0.79	
14	120	PT	36	32	24	16	9.167	0.956	2.042	-0.945	-1.900	0.44	0.89	0.50	0.67	
15	120	PT	32	28	27	24	6.407	-1.753	2.519	1.044	2.796	0.75	0.88	0.86	0.89	
16	120	PT	23	20	18	11	6.647	-1.235	1.824	-1.582	-0.347	0.48	0.87	0.55	0.61	
17	120	PT	29	27	26	16	7.680	-0.468	2.160	-0.485	-0.017	0.55	0.93	0.59	0.62	
	<b>MEAN PT</b>		<b>37.235294</b>	<b>29.2941</b>	<b>26.23529</b>	<b>19.8235</b>	<b>8.205</b>	<b>-0.039</b>	<b>2.213</b>			<b>0.49</b>	<b>0.74</b>	<b>0.67</b>	<b>0.73</b>	
	<b>total</b>		<b>659</b>	<b>516</b>	<b>457</b>	<b>349</b>						<b>0.53</b>	<b>0.78</b>	<b>0.68</b>	<b>0.76</b>	

**Elementary Algebra Item Analysis**  
**Spring 2015**

ivory A	pink B		Part Time		Math 146		Math 141		Overall	
			Mean	St. Dev.	Mean	St. Dev.	Mean	St. Dev.	Mean	St. Dev.
1	1	order of operations	0.58	0.49	0.58	0.49	0.56	0.50	0.58	0.49
2	3	solve a compound inequality & graph	0.40	0.49	0.39	0.49	0.44	0.50	0.40	0.49
3	2	solve a linear equation w/ fractions	0.77	0.42	0.76	0.43	0.80	0.40	0.77	0.42
4	4	solve an absolute value equation	0.45	0.50	0.46	0.50	0.43	0.49	0.45	0.50
5	8	2x2 system	0.70	0.46	0.69	0.46	0.72	0.45	0.70	0.46
6	7	find the equation of a line between two points	0.52	0.50	0.57	0.49	0.40	0.49	0.52	0.50
7	5	graph a linear inequality in 2 variables	0.24	0.43	0.24	0.42	0.24	0.43	0.24	0.43
8	9	composition of functions	0.40	0.49	0.39	0.49	0.41	0.49	0.40	0.49
9	10	apply exponential properties	0.08	0.28	0.10	0.30	0.05	0.22	0.08	0.28
10	11	solve a rational equation	0.13	0.33	0.16	0.37	0.05	0.22	0.13	0.33
11	12	divide a polynomial by a monomial	0.21	0.40	0.17	0.38	0.28	0.45	0.21	0.40
12	13	simplify rational expression (factor/cancel)	0.38	0.49	0.40	0.49	0.34	0.47	0.38	0.49
13	14	solve a quadratic equation	0.46	0.50	0.50	0.50	0.37	0.48	0.46	0.50
14	15	d=rt word problem	0.20	0.40	0.21	0.41	0.16	0.37	0.20	0.40
15	16	simplify a complex fraction	0.22	0.41	0.23	0.42	0.19	0.39	0.22	0.41
16	17	write a radical expression in simplified form	0.30	0.46	0.30	0.46	0.31	0.46	0.30	0.46
17	18	solve a radical equation	0.30	0.46	0.31	0.46	0.28	0.45	0.30	0.46
18	20	direction variation word problem	0.16	0.37	0.18	0.39	0.12	0.32	0.16	0.37
19	21	divide a polynomial by a binomial	0.21	0.41	0.19	0.39	0.27	0.44	0.21	0.41
20	22	interest word problem	0.31	0.46	0.28	0.45	0.36	0.48	0.31	0.46
21	23	distance between two points	0.20	0.40	0.22	0.41	0.16	0.37	0.20	0.40
22	19	graph a parabola	0.30	0.46	0.32	0.47	0.24	0.43	0.30	0.46
23	6	graph a circle (complete the square)	0.32	0.47	0.36	0.48	0.22	0.42	0.32	0.47
24	24	factor (GCF, difference of two squares)	0.32	0.47	0.33	0.47	0.31	0.46	0.32	0.47
25	25	divide complex numbers	0.34	0.47	0.40	0.49	0.20	0.40	0.34	0.47

	exam mean	8.44218		mean GPA	2.17687										
	exam st. dev	5.59574		GPA st. dev.	1.28897										
			enrolled on census (students who got grade AND "W"s	received grade	# students took final	passed	exam mean	exam z score	course GPA for stds took final	course z score	course z - exam z	success	retention	pass rate per completed	pass rate for stds that took final
	COURSE	FT/PT													
1	141	PT	23	18	14	12	10.083	1.097	3.083	2.631	1.534	0.52	0.78	0.67	0.86
2	141	PT	32	24	23	13	9.050	0.521	2.200	0.086	-0.435	0.41	0.75	0.54	0.57
3	141	PT	39	35	32	25	5.656	-2.817	2.156	-0.090	2.726	0.64	0.90	0.71	0.78
4	141	PT	37	20	21	10	9.429	0.808	1.524	-2.322	-3.130	0.27	0.54	0.50	0.48
5	146	PT	40	35	34	22	7.294	-1.196	1.676	-2.264	-1.067	0.55	0.88	0.63	0.65
6	146	PT	43	37	34	27	9.529	1.133	2.441	1.196	0.063	0.63	0.86	0.73	0.79
7	146	PT	30	17	14	14	15.643	4.815	3.143	2.804	-2.011	0.47	0.57	0.82	1.00
8	146	PT	41	19	17	15	6.883	-1.149	2.529	1.128	2.277	0.37	0.46	0.79	0.88
9	146	PT	36	24	18	13	6.278	-1.641	2.278	0.332	1.973	0.36	0.67	0.54	0.72
10	146	PT	33	24	24	20	7.583	-0.752	2.417	0.911	1.663	0.61	0.73	0.83	0.83
11	146	PT	31	19	17	4	7.538	-0.666	1.308	-2.780	-2.114	0.13	0.61	0.21	0.24
12	146	PT	35	22	16	10	10.812	1.694	1.938	-0.743	-2.437	0.29	0.63	0.45	0.63
13	146	PT	39	30	29	23	9.034	0.570	2.207	0.125	-0.444	0.59	0.77	0.77	0.79
	MEAN PT			24.9231	22.538	16	8.456	0.012	2.174			0.44	0.70	0.63	0.70
	total		459	324	293	224						0.49	0.71	0.69	0.76