	Quiz #2 (68 points)	(% of max)
101	37.5	55.1%
102	4	5.9%
105	10	14.7%
109	54	79.4%
110	20	29.4%
111	25.5	37.5%
113	42	61.8%
117	57	83.8%
118	32.5	47.8%
119	19	27.9%
123	28	41.2%
124	29.5	43.4%
125	56.5	83.1%
126	64	94.1%
128	50	73.5%
130	21.5	31.6%
132	49	72.1%
133	39	57.4%
134	41	60.3%
135	61	89.7%
136	36	52.9%
137	55	80.9%
138	50.5	74.3%
139	64	94.1%
140	36	52.9%

Average	39.3	57.8%
stdev	16.8	24.8%

Long Answer Grade Criteria

Problem #6

8.0 points – Totally correct

7.0 points – Correct method, but used the incorrect mass for B

6.5 points – Used an inconsistent sign convention in applying Newton's 2nd Law

6.0 points – Calculated force of B on A, but did not explicitly invoke Newton's 3rd Law

3.5 points – Incorrectly calculated the net force on at least one of the objects.

3.0 points – Incorrectly thought all force transferred to mass B, but displayed correct force diagrams

2.0 points – Incorrectly thought all force transferred to mass B and did not include, or included incorrect, force diagrams

1.0 points – Included both horizontal and vertical forces in a single expression of Newton's 2nd law

0.0 points – Little or no work

Problem #7

8.0 points – Totally Correct

7.5 points – Correct, but incorrect number of significant figures

7.0 points – Found angle with respect to horizontal, not vertical

6.0 points – Used calculated tangent function incorrectly

4.0 points – Used incorrect trig function, various reasons

2.0 points – Found centripetal acceleration, unable to connect it to an angle

0.0 points – Little or no relevant work

Problem #8

8.0 points – Totally Correct

7.5 points – Correct, but incorrect number of significant figures

7.0 points – Minor algebra or calculation error

5.0 points – Friction force acting in the wrong direction

4.0 points – Incorrectly calculates the normal force

2.0 points – Incorrect application of Newton's 2^{nd} Law for Mass A

0.0 points – Little or no relevant work

Problem #9

8.0 points – Totally Correct

7.0 points – Minor algebra error

7.0 points – Appears to have correct solution, but needs to show more work/explain thinking more thoroughly

6.0 points – Calculation errors, and needs to be more clear

4.0 points – Incorrect direction of forces

3.0 points – Does not take into account the acceleration of one or both of the blocks

2.0 points – Major problems applying Newton's 2^{nd} Law. Missing forces, inconsistent sign conventions, and/or incomplete or missing force diagram

0.0 points – Little or no relevant work

Problem #10

8.0 points – Totally Correct

7.0 points – Incorrect force diagram

6.0 points – Incorrect force diagram, and extraneous centripetal force considerations

4.0 points – Indicates an outward force action on the ball

1.0 points – Little progress. Attempts a force diagram or an expression of Newton's 2nd Law

0.0 points – Little or no relevant work

Problem #11

8.0 points – Totally Correct

7.0 points – Algebra error

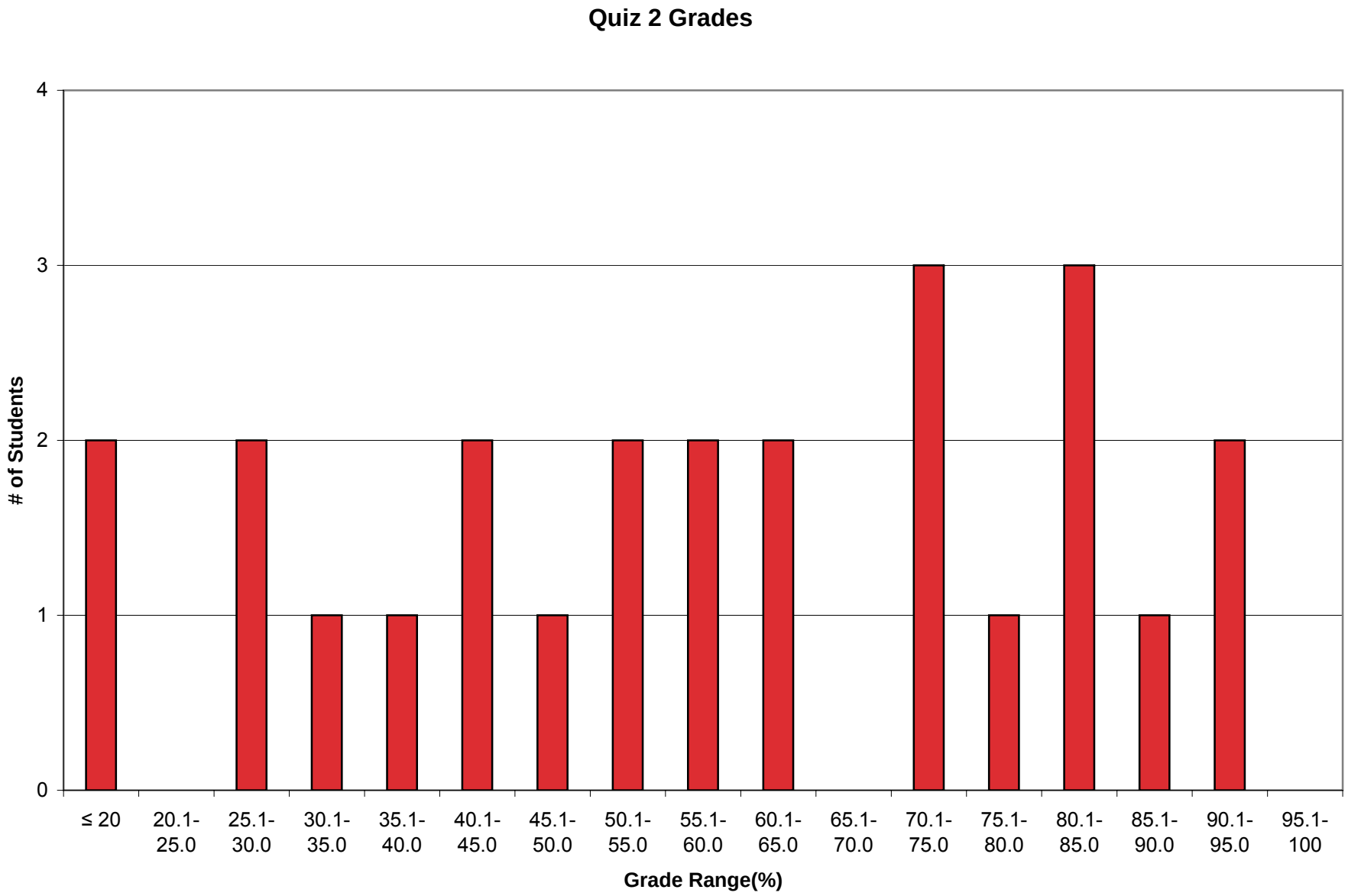
7.0 points – Incorrect radius for calculating centripetal force

5.0 points – Showed some relevant work, but unable to connect tension with speed

4.0 points – Error in applying relationship between mass, force and acceleration

3.0 points – Incorrectly calculates centripetal force

0.0 points – Little or no relevant work


Quiz 2 Grades
# of Students
4
3
2
1
0
≤ 20
20.1-25.0
25.1-30.0
30.1-35.0
35.1-40.0
40.1-45.0
45.1-50.0
50.1-55.0
55.1-60.0
60.1-65.0
65.1-70.0
70.1-75.0
75.1-80.0
80.1-85.0
85.1-90.0
90.1-95.0
95.1-100
Grade Range(%)