Name: Date: Period:

Chapter 2 (One-Dimensional Kinematics)

Homework Check A (collected _____)

Reading

Please read the following on your own in the OpenStax textbook by the dates given. It will give good context for class discussion. Check off when you have completed them.

- ◯ 2.1 Displacement ..... _____
- ◯ 2.2 Vectors, Scalars, and Coordinate Systems ..... _____
- ◯ 2.3 Time, Velocity, and Speed ..... _____
- ◯ 2.4 Acceleration ..... _____
- ◯ 2.8 Graphical Analysis ..... _____

Problems and Conceptual Question

Get stamps from your instructor as you complete each of the following problems. The conceptual questions (CQ) require at least one sentence of explanation.

2.1 Displacement (3 Points) P #1-4 CQ #2-3	**2.3 Time, Velocity, Speed** (3 Points) P #5,7 CQ #6
2.4 Acceleration (5 Points) P #16,17,19 CQ #13-15	**2.8 Graphical Analysis** (4 Points) P #59,61 CQ #26-29

Problem Answers

1. (a) 7 m; (b) +7 m; (c) 7 m
2. (a) 5 m; (b) −5 m; (c) 5 m
3. (a) 12 m; (b) +8 m; (c) 8 m
4. (a) 8 m; (b) −4 m; (c) 4 m
5. (a) 3.0×10^4 m/s (b) 0 m/s
7. 1.67×10^7 yr
16. $4.29\,\mathrm{m/s^2}$
17. (a) $56.4\,\mathrm{m/s^2} = 5.76g$; (b) $-201\,\mathrm{m/s^2} = -20.6g$
19. $108\,\mathrm{m/s^2} = 11.1g$
59. verify using rise/run
61. verify using rise/run

Equations

$\bar{v} = \frac{\Delta x}{\Delta t}$ $\quad \bar{a} = \frac{\Delta v}{\Delta t}$ $\quad v = v_0 + at$ "Old Faithful" $\quad x = x_0 + v_0 t + \frac{1}{2}at^2$ "Big Chalupa" $\quad v^2 = v_0^2 + 2a\,(x - x_0)$ "Ain't Got No Time"

Name: Date: Period:

Chapter 2 (One-Dimensional Kinematics)

Homework Check B (collected on Test Day - _____)

Reading

Please read the following on your own in the OpenStax textbook by the dates given. It will give good context for class discussion. Check off when you have completed them.

- ◯ 2.5 Motion Equations ..... _____
- ◯ 2.6 Problem Solving Basics ..... _____
- ◯ 2.7 Falling Objects ..... _____

Problems and Conceptual Question

Get stamps from your instructor as you complete each of the following problems. The conceptual questions (CQ) require at least one sentence of explanation.

2.5 Constant Accceleration (10 Points)	**2.7 Free Fall** (10 Points)
P #22,27,28,30,31 **HW Quiz on Mon, Aug 18**	P #43,45,46,47,48,49,51 CQ #20,21,22,24

Bonus Problems

Get stamps for any bonus problems you complete.

P #32	P #55	P #57

Problem Answers

22. 502 m/s
27. 0.799 m
28. 52.3 m
30. $8.45 \times 10^3\,\text{m/s}^2$
31. (a) 51.4 m; (b) 17.1 s
43. 4.95 m/s
45. (b) 8.62 m; (c) 2.65 s
46. (a) 1.14 s;
    (b) 0.816 m;
    (c) -7.16 m/s
47. (a) 8.26 m; (b) 0.717 s
48. 2.88 s
49. 1.91 s
51. (a) 94.0 m; (b) 3.13 s

Equations

$\bar{v} = \frac{\Delta x}{\Delta t}$ $\quad \bar{a} = \frac{\Delta v}{\Delta t}$ $\qquad v = v_0 + at$ "Old Faithful" $\qquad x = x_0 + v_0 t + \frac{1}{2}at^2$ "Big Chalupa" $\qquad v^2 = v_0^2 + 2a\,(x - x_0)$ "Ain't Got No Time"