

Name:

Date:

Period:

## Chapter 2 (One-Dimensional Kinematics)

### Homework Check A (collected Mon Aug, 15)

**Velocity and Speed** p. 43 #1, 2, 4 ..... Complete by Thu, Aug 11

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HERE  
3 POINTS

**Average Velocity** p. 43 #7, 9, 12 ..... Complete by Thu, Aug 11

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5 POINTS

**Acceleration** pp. 43-44 #17, 18, 19, 20 ..... Complete by Thu, Aug 11

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5 POINTS

**Graphical Analysis** p. 45 #55, 57, 58 ..... Complete by Mon, Aug 15

THERE IS NOT MUCH WORK TO SHOW FOR THESE PROBLEMS; YOU CAN PROVIDE JUST ANSWERS.

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2 POINTS

### Answers

- |                           |  |  |
|---------------------------|--|--|
| 1. 52.7 m                 | 18. $6.52 \text{ m/s/s} = 84,500 \text{ km/h/h}$ | d) about 1.6 m/s;                        |
| 2. 85.5 km/h              | 19. $-6 \text{ m/s/s} = -0.61 \text{ g}$         | e) about $-1 \text{ m/s}$                |
| 4. $-4.06 \text{ cm/s}$   | 20. 8.5 seconds                                  | 58. a) $0 \text{ s} < t < 15 \text{ s};$ |
| 7. distance is 350 km;    | 55. a) $t=48 \text{ sec};$                       | b) either around $t = 29 \text{ s}$ or   |
| avg velocity is 77.7 km/h | b) $90 \text{ s} < t < 105 \text{ s};$           | $t = 45 \text{ s};$                      |
| 9. avg vel is zero;       | c) $0 \text{ s} < t < 40 \text{ s};$             | c) about $t = 37 \text{ s};$             |
| avg speed is 3.68 m/s     | d) $t = 70 \text{ s}$                            | d) moves forward for 37 sec              |
| 12. avg vel is zero;      | 57. a) about 0.3 m/s;                            | then backwards                           |
| avg speed is 61.1 km/h    | b) about 1.3 m/s;                                |  |
| 17. $6.1 \text{ m/s/s}$   | c) about 0.4 m/s;                                |  |

Homework will be accepted for full credit until the test. Homework turned in after the test will be accepted for half credit until the Unit 3 Test. *Please remember that you will not be eligible to complete test corrections if you do not turn in your homework.*

### Equations

$$\bar{v} = \frac{\Delta x}{\Delta t} \quad \bar{a} = \frac{\Delta v}{\Delta t}$$

$$v = v_0 + at$$

“Old Faithful”

$$x = x_0 + v_0 t + \frac{1}{2} at^2$$

“Big Chalupa”

$$v^2 = v_0^2 + 2a(x - x_0)$$

“Ain’t Got No Time”

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## Chapter 2 (One-Dimensional Kinematics)

### Homework Check B (collected on Test Day)

**Motion at a Constant Acceleration** pp. 44 #22, 23, 24, 29 ..... Complete by Thu, Aug 18.

YOUR WORK FOR THESE PROBLEMS SHOULD INCLUDE PICTURES!

**Homework Quiz**

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HERE  
5 POINTS

**Falling Objects** pp. 44-45 #39, 40, 41, 49, 52 ..... Complete by Fri, Aug 19.

YOUR WORK FOR THESE PROBLEMS SHOULD INCLUDE PICTURES!

STAMP  
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5 POINTS

**Conceptual Questions** p. 41 #1, 2, 3, 4, 6, 9, 10, 16, 17 ..... Complete by Mon, Aug 22.

THESE QUESTIONS SHOULD HAVE AT LEAST ONE FULL SENTENCE OF EXPLANATION

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HERE  
5 POINTS

**Misconceptual Questions** p. 42 #2, 3, 4, 5, 6, 9 ..... Complete by Mon, Aug 22.

YOU DO NOT NEED TO GET THIS ONE STAMPED, BUT THESE ARE GOOD REVIEW FOR YOUR TEST!

**Bonus Problems!** p. 43 #15; p. 44 #32 & 38; p. 45 #53 ..... Turn in separately on test day!

Test will be on Tuesday, Aug 23.

### Problem Answers

- |                                      |                                 |                               |
|--------------------------------------|---------------------------------|-------------------------------|
| 22. $-4.5 \text{ m/s/s}$             | 39. 61.8 m                      | 52. 23.4 m/s;                 |
| 23. $1.17 \text{ m/s/s}$ ; 105 m     | 40. 8.8 s; 86.3 m/s             | 28 m above the ground;        |
| 24. 204 m                            | 41. $16.7 \text{ m/s}$ ; 14.2 m | 0.96 s before seen at window; |
| 29. $-435 \text{ m/s/s} = -44.4g$ 's | 49. 5.21 s                      | 4.78 s after being thrown     |

### Misconceptual Answers

2. d      3. d      4. c      5. a      6. c      9. a

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### Equations

$$\bar{v} = \frac{\Delta x}{\Delta t} \quad \bar{a} = \frac{\Delta v}{\Delta t} \quad v = v_0 + at \quad x = x_0 + v_0 t + \frac{1}{2}at^2 \quad v^2 = v_0^2 + 2a(x - x_0)$$

“Old Faithful”      “Big Chalupa”      “Ain’t Got No Time”