Name: Date: Period:

Chapter 2 (One-Dimensional Kinematics)

Homework Check A (collected Fri, Aug 16)

Velocity and Speed p. 43 #1, 2, 4 ..... Complete by Thu, Aug 8

STAMP HERE 3 POINTS

Average Velocity p. 43 #7, 9, 12 ..... Complete by Mon, Aug 12

STAMP HERE 5 POINTS

Acceleration pp. 43-44 #17, 18, 19, 20 ..... Complete by Mon, Aug 12

STAMP HERE 5 POINTS

Graphical Analysis p. 45 #55, 57, 58 ..... Complete by Fri, Aug 16

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

STAMP HERE 2 POINTS

Answers

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

Equations

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

$$1\,\text{m/s} = 3.6\,\text{km/h}$$

Name: Date: Period:

Chapter 2 (One-Dimensional Kinematics)

Homework Check B (collected on Test Day)

Motion at a Constant Acceleation pp. 44 #22, 23, 24, 29 ..... Complete by Tue, Aug 20
YOUR WORK FOR THESE PROBLEMS SHOULD INCLUDE PICTURES! ***Homework Quiz in class***

STAMP HERE 5 POINTS

Falling Objects pp. 44-45 #39, 40, 41, 49, 52 ..... Complete by Mon, Aug 26
YOUR WORK FOR THESE PROBLEMS SHOULD INCLUDE PICTURES!

STAMP HERE 5 POINTS

Conceptual Questions p. 41 #1, 2, 3, 4, 6, 9, 10, 16, 17 ..... Complete by Wed, Aug 28.
THESE QUESTIONS SHOULD HAVE AT LEAST ONE FULL SENTENCE OF EXPLANATION

STAMP HERE 5 POINTS

Misconceptual Questions p. 42 #2, 3, 4, 5, 6, 9 ..... Complete by Wed, Aug 28
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 Thursday, Aug 29.

Problem Answers

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

Misconceptual Answers

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

Equations

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

$$1\,\text{m/s} = 3.6\,\text{km/h}$$