

Mighty Physics Assignment Sheet with Answers

All work must be done IN INK in your Assignment Portfolio.

Questions MUST be answered in complete sentences.

Problems are to be solved by SHOWING YOUR METHOD. The Hup, Two, Three, Four, Ex means explain. Di means draw a diagram.

<p>Ch 1. Page 27</p> <p>1. Ex 5. use tables 1-2, 1-3 12. 11 people 13. 1.08×10^9 Km 15. Ex 16a. 1 16b. 5 16c. 4 16d. 4 16e. 6 18a. 3.00×10^8 m/s 18b. 2.9979×10^8 m/s 18c. 2.997925×10^8 m/s 20a. 800 g 20b. 0.90 m/s 20c. 17.8 mm</p>	<p>19b. slope is positive 19c. slope is negative 19d. slope is positive 22. $+0.75 \text{ m/s}^2$ 23. $+8.6 \text{ m/s}$ 24a. $+6.5 \text{ m/s}$ 24b. 5.0 s 36. Ex 40. -39.6 m/s 41a. $+17.5 \text{ m/s}$ 41b. 15.5 m</p> <p>Ch 3. Page 113</p> <p>1-5. Ex 6. Find Resultant only, Di 8-10 Di 22. 5 blocks at 50° N of E 23. 108 m, -19.1 m 27. 31.5 m, 26.4 m 30-31 Ex 33. vertical velocities are the same. Explain. 45-47. Ex 49a-b. Ex</p>	<p>10. 1210 N at 62° above 11. Di 12. 4 N; 3 N 13-15. Ex 20. 55 N 21. 3.52 m/s^2 22 a & b. zero, Ex 26a. 770 N, 8.1° right 26b. 0.24 m/s, 8.1° right 33-39. Ex 40. 0 N, Ex 41-43. Ex 45a. 0.883 N 45b. 14.0 N 47a. zero 47b. 33.9 N</p>	<p>23-24 Ex 27. 7.34 m 32-33. Ex</p> <p>Ch 6. Page 232</p> <p>1-3. Ex 5-11. Ex 12a. 8.35×10^{-21} up 12b. 4.88 kg.m/s (change g to kg). 12c. 7.50×10^2 kg.m/s right 12d. 1.78×10^{29} kg.m/s W 13. 46.0 m/s 15. 5.2 kg.m/s 17. 18 N 27-28 Ex 29a 2.43 m/s forward 29b. 7.97×10^{-2} m/s forward 37 14.5 m/s N</p>
<p>Ch 2. Page 69</p> <p>2. slope at each point 3a. slope = 0 3b. slope = positive 3c. slope = negative 4. Ex 6. Ex 7. Ex 8. 75.73 Km/h south 9. 19 Km/h east 11. 5.436 m/s 18. 0.00 m/s^2 Sketch prob 19: 19a. slope is zero</p>	<p>22. 5 blocks at 50° N of E 23. 108 m, -19.1 m 27. 31.5 m, 26.4 m 30-31 Ex 33. vertical velocities are the same. Explain. 45-47. Ex 49a-b. Ex</p> <p>Ch 4. Page 151</p> <p>1-7 Ex</p>	<p>Ch 5. Page 193</p> <p>1-3 Ex 7. 53 J; 53 J 8a. 6230 J 8b. -6230 J 10. 47.5 J 11-13. Ex 14. 1 to 25 15. Ex 16. 7.6×10^4 J 19a. -19.6 J 19b. 39.2 J 19c. 0 J</p>	<p>Ch 7. Page 269</p> <p>1. 180°, 1/2 rev 2. rad, rad/s, rad/s^2 3-4. Ex 5a. 1.99 rad 5b. 0.79 rad 5c. $\pi/2$ rad 5d. π rad 6. 2.5 m, 140 m, 9.0×10^2 m 7. 0.105 rad/s, 0 rad/s^2 10. 0.042 rad/s^2</p>

<p>Ch 8. Page 305 1-8 Ex 10. 26 N•m 11. 220 N 13. c, c Ex 14. c Ex 15-17. Ex 21a. 1.20 Kg 21b. at the 0.593 mark 24. 328 N, 552 N 27-29. Ex 39. Ex 40. Ex 52-57. Ex 60. 1.3×10^2 N</p>	<p>Ch 10. Page 387 1-4. Ex 7-8 Ex 15. 35°C Ex 16. none, Ex 17. increase, Ex 22. 14 m 25-28. Ex Boom Probs on Q = mcΔt and expansion. On line. Ch 11. Page 431 1-2. Ex 6-9. Ex 12. ΔU = Q -W 14. Ex 23. Ex 26. Temp rises, Ex 32. Ex</p>	<p>28. Ex 29. Ex & Di 30. 1/3 s, 3 Hz 31. Ex 32. Ex & Di 33. Ex & Di 34. Ex 35. neither, Ex 36. Ex 37. Di & Ex 38. 1.73×10^{-15} s, 5.77×10^{14} Hz 39. 0.0333 m 40. Di 41. Ex 42. Ex 44. a = 1.28 m, b = 0.22 m 45. Ex 46. Ex 49. 2.0 Hz, 0.50 s, 0.30 m/s 50. 9.70 m/s² 51. 446 m ----- HERE ENDETH THE FIRST SEMESTER ----- Ch 13. Page 507 1-9. Ex & Di 10. 2f, v is constant. Ex 11-12. Ex 15-18. Ex 20. Ex 25-26. Ex 28. 7.96×10^{-2} W/m²</p>	<p>30. Di & Ex 31a. 4.0m 1b. 2.0m 31c. 1.3m 31d. 1.0m 32. Di & Ex 33. Ex 34. 3 Hz 36. Ex 38-39. Ex 44. Ex 45. 20m. 2×10^{-2} m. 46. 0.20 s 48. 5.0×10^{-7}m Ch 14. Page 550 1-5. Ex 6. 1999+2(995)=2189 7. 3×10^8 m/s 8-9. Ex 10. 1.00×10^{15} Hz, 7.50×10^{14} Hz 11. 3×10^{14} Hz 12. 3.02 m 13. 9.1×10^{-3} m (9.1 mm) 14-15. Ex 16. 2 m behind, M = 1, observes left. Ex 17-20. Ex & Di 21-33. Di & Ex 34a. -0.384, real, inverted 34b. -1.00, real, inverted 34c. 1.67, virtual, upright 35. p = 13 cm, M = -2.0</p>
<p>Ch 9, Page 343 1-5. Ex 7. Ex 9. 3.4×10^{-5} m³ 12a. 6.3×10^3 Kg/m³ 15-20. Ex 21. 1.01×10^{11} N 26. 84 N 28-30. Ex 35-36. Ex 39. 3.000 times 47a. 1.0×10^3 Kg/m³ Hint: Pa = N/m² & N = (Kg)(9.8m/s²) 47b. 3.5×10^2 Pa 47c. 2.1×10^3 Pa</p>	<p>Ch 12. Page 469 1-7. Ex 8. 14 N 9. 130 N/m 10. 580 N/m 12. twice. Ex 14. inversely 15. T = sq rt of 2. no change 17. Ex 18. Ex 20. Ex 21. 6.3 s, 0.16 Hz 24. 22.4 m 25. Ex 26. Ex & Di 27. Ex</p>		

<p>36. $p = 4.1 \times 10^2 \text{ cm}$, $f = 32 \text{ cm}$, $R = 64 \text{ cm}$</p> <p>37. $p = 6.1 \text{ cm}$, $f = 2.6$ cm, real</p> <p>39. $q = -15.8 \text{ cm}$, $M = 0.295$</p> <p>42. -50, ex & Di</p> <p>51. $p = 11.3 \text{ cm}$</p> <p>Ch 15, Page 587</p> <p>1-9. Di & Ex</p> <p>10. 30.3°</p> <p>11. 26°</p> <p>13. 51.9°</p> <p>17-25. Di & Ex</p> <p>26a. 40.0 cm</p> <p>26b. -20 cm</p> <p>28a. -13.3 cm</p> <p>28b. -10.00 cm</p> <p>28c. -6.67 cm</p> <p>32. -80.0 cm</p> <p>37. -41. Ex & Di</p> <p>45. Di & Ex</p> <p>Ch 16, Page 620</p> <p>1-8. Ex & Di</p> <p>9a. 589 nm</p> <p>9b. 0.327°</p> <p>9c. 0.491°</p> <p>10. 0.08°</p> <p>23-26. Ex</p> <p>Ch 17, Page 654</p> <p>1-2. Ex</p> <p>3. 2.2×10^{13} electrons</p> <p>4-16. Ex</p> <p>18. 45 N</p> <p>23. Ex</p>	<p>26. Ex</p> <p>27. Di</p> <p>28-30. Ex & Di</p> <p>33. Ex</p> <p>36. $5.4 \times 10^{-14} \text{ N}$</p> <p>Ch 18, Page 683</p> <p>1-3. Ex</p> <p>4. $8.03 \times 10^{-7} \text{ J}$</p> <p>7-9. Ex</p> <p>13. $2.6 \times 10^4 \text{ V}$</p> <p>17. -154 V</p> <p>19. doubles, Ex</p> <p>20-21. Ex</p> <p>22. 4 times, Ex</p> <p>23-24 Ex</p> <p>25. 4 times, Ex</p> <p>28. Ex</p> <p>31. $4.000 \times 10^{-6} \text{ F}$</p> <p>Ch 19, Page 717</p> <p>1-16. Ex</p> <p>18. $3.0 \times 10^{-3} \text{ A}$</p> <p>19a. $1.9 \times 10^3 \text{ C}$</p> <p>19b. 1.2×10^{22} electrons</p> <p>20. 5.0 C</p> <p>21-28. Ex</p> <p>29. 0.20 A</p> <p>30. 3.4 A</p> <p>31. 30 W</p> <p>32a. 1.8 A</p> <p>32b. 4.5 A</p> <p>32c. 0.45 A</p> <p>33-36. Ex</p> <p>37. 50.0 J</p> <p>38. $3.6 \times 10^6 \text{ J}$</p> <p>39-41. Ex</p> <p>42. 0.62 A, 190 W</p> <p>52a. $7.0 \times 10^8 \text{ W}$</p>	<p>52b. $4.8 \times 10^7 \text{ W}$</p> <p>52c. 6.9%</p> <p>56. $3.2 \times 10^5 \text{ J}$</p> <p>18a. 24 W</p> <p>Ch 20, Page 754</p> <p>1-3. Di & Ex</p> <p>4. 12.0 V</p> <p>6-15. Ex</p> <p>16. 0.75 W</p> <p>17. 30 V</p> <p>18b. 1.0 A</p> <p>18c. 1.0 A, 1.0 A, 1.0 A</p> <p>18d. 4.0 V, 8.0 V, 12 V</p> <p>19a. 2.2 W</p> <p>19b. 11 A</p> <p>19c. 6.0 A, 3.0 A, 2.0 A</p> <p>19d. 24 V, 24 V, 24 V</p> <p>20a. 33.0 W</p> <p>20b. 132 V</p> <p>20c. 4.00 A, 4.00 A</p> <p>21a. 2.99 W</p> <p>21b. 4.0 A</p> <p>21c. 0.67 A, 1.3 A, 2.0 A</p> <p>21d. 12 V, 12 V, 12 V</p> <p>22-23. Ex</p> <p>25. 15 W</p> <p>Ch 21, Page 781</p> <p>1-5. Ex</p> <p>7-15. Ex</p> <p>19-21. Ex</p> <p>29. $3.0 \times 10^{-11} \text{ N}$ upward</p>	<p>Ch 22, Page 821</p> <p>1-9. Ex & Di</p> <p>16-21. Ex</p> <p>23. Ex</p> <p>23. Ex</p> <p>29a. $2.4 \times 10^2 \text{ V}$</p> <p>29b. 2.0 A</p> <p>32-35. Ex</p> <p>38a. step up Ex</p> <p>38b. 48 turns</p> <p>41. 11 turns</p> <p>We shall do Ch 24 next, followed by Ch 23</p> <p>Ch 24, Page 886</p> <p>1. Ex</p> <p>3. Ex</p> <p>8-15. Ex</p> <p>Ch 23, Page 856</p> <p>1-9. Ex</p> <p>14. $4.8 \times 10^{17} \text{ Hz}$</p> <p>15a. $2.49 \times 10^{-5} \text{ eV}$</p> <p>15b. 2.49 eV</p> <p>15c. 24.9 eV</p> <p>19-26. Ex</p> <p>33. Ex</p> <p>38. Ex</p> <p>42. $1.0 \times 10^{-5} \text{ Kg}$</p> <p>Ch 25, Page 927</p> <p>1-6 Ex</p> <p>10-11. Ex</p> <p>13-17, 20 Ex</p> <p>26. 560 days,</p> <p>30. Ex</p> <p>Here Endeth the Assignments!</p>
---	---	---	---