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Answers To PROBLEMS (cont)

- 13. a. 10 m/s, 53° (from bank); b. 30 s; c. 1.8×10^2 m
Refer to Problems and Solutions Manual for diagram.
- 14. a. 34°; b. 90 s;
c. 5.4×10^2 m; d. 90 s
Refer to Problems and Solutions Manual for diagram.
- 15. 230 km/h, 76°
- 16. 1.1×10^2 N, 37°
Refer to Problems and Solutions Manual for diagram.
- 17. a. 4.1 m/s, 67° (from bank); b. 63 s; c. 1.0×10^2 m
- 18. 16 m/s², 67° (up from horizontal)
Refer to Problems and Solutions Manual for diagram.
- 19. a. 65 m/s; b. 58°
Refer to Problems and Solutions Manual for diagram.
- 20. 158 km/h, 18° west of south
Refer to Problems and Solutions Manual for diagram.
- 21. $F_h = 65$ N; $F_v = 65$ N
- 22. 108 N
Refer to Problems and Solutions Manual for diagram.
- 23. a. 2.2 m/s²; b. 340 N, up
Refer to Problems and Solutions Manual for diagram.
- 24. 13 N
- 25. 79 km, 47°
- 26. a. 110 N; b. 107 N; c. 97 N; d. 81 N; e. +30 N
- 27. 279 N, up
Refer to Problems and Solutions Manual for diagram.

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Answers To PROBLEMS

Complete solutions for all Chapter Review Problems can be found in the Problems and Solutions Manual accompanying this text.

- 1. a. 45 m/s²; b. 3.9×10^4 N
c. 3.1×10^3 N; d. inertia mass
- 2. 33.02 m/s²; 163.0 m/s
- 3. No, the acceleration during the first half-second was 45 m/s² (problem 1) and the acceleration for the full time was 33.02 m/s² (problem 2).
- 4. -5×10^3 N, upward
- 5. 3.1×10^3 N
- 6. 6.3×10^3 N
- 7. 33 m
- 8. a. 14 m/s; b. 3.2×10^3 N
- 9. 6.6×10^{-25} m/s²
- 10. -2.0 m/s²
- 11. a. 95.0 kg; b. 929 N; c. 95.0 kg; d. 934 N; e. "mass-in"
- 12. 250 kg
- 13. 10.5 m/s², down
- 14. -1.13×10^4 N, opposite direction of motion
- 15. 0.255
- 16. 0.400
- 17. -1 m/s²

Answers To PROBLEMS 127 cont

Complete solutions for all Chapter Review Problems can be found in the Problems and Solutions Manual accompanying this text.

- 1. 33 N, east; Refer to Problems and Solutions Manual.
- 2. Refer to Problems and Solutions Manual.
- 3. a. 25 N, upward; b. 175 N, downward
- 4. a. 250 km/h, in direction of plane; b. 150 km/h, in opposite direction of plane
- 5. Refer to Problems and Solutions Manual.
- 6. Refer to Problems and Solutions Manual.
- 7. a. Refer to Problems and Solutions Manual for diagram.
b. Refer to Problems and Solutions Manual for diagram. c. Each gives same resultant, about 144 N at 16°.
- 8. 3.5 km; Refer to Problems and Solutions Manual.
- 9. 42 m, 315°; Refer to Problems and Solutions Manual.
- 10. 509 km, 259°; Refer to Problems and Solutions Manual.
- 11. 5 km, 307°; Refer to Problems and Solutions Manual.
- 12. 24.2 N, 108°; Refer to Problems and Solutions Manual.

Answers continue on page 130.