

108 127

Answers To PROBLEMS (cont)

3. 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/s^2 , 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/s^2 ; 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.

127 cont

Answers To PROBLEMS

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.

105

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/s^2 ; b. 3.9×10^4 N
c. 3.1×10^3 N; d. inertia mass
2. 33.02 m/s^2 ; 163.0 m/s
3. No, the acceleration during the first half-second was 45 m/s^2 (problem 1) and the acceleration for the full time was 33.02 m/s^2 (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. $6.6 \times 10^{-25} \text{ m/s}^2$
10. -2.0 m/s^2
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/s^2 , down
14. -1.13×10^4 N, opposite direction of motion
15. 0.255
16. 0.400
17. -1 m/s^2