

wk.8.practice.answers

1. $34 \mathbf{i} + 94 \mathbf{j}$

2. 168 at 153°

3. b newtons

4. h coulombs

5. 0.274%

6.

	A	B
1		% error
2	9.87	0.61%
3	10.2	3.98%
4	9.34	4.79%
5	9.85	0.41%
6	9.65	1.63%
7	8.92	9.07%
8	11.3	15.19%
9	9.33	4.89%
10	AVERAGE	% error of
11	9.8075	0.03%

7. $-30 \mathbf{i} + 259 \mathbf{j}$

Resultant is 261 at 97°

Equilibrant is 261 at -83°

8. $-13 \mathbf{i} + 292 \mathbf{j}$

Resultant is 293 at 93°

Equilibrant is 293 at -87°

9. (a) 441 newtons (b) 45 kg

(c) 120 newtons

10. 1.5×10^4 joules

11. 2.0×10^3 joules

12. 6.9 joules

13. c

14. 20 m/s

15. 2.0 s

16. (a) 1.80 % (b) 5.06 m (c) 0.511 m/s^2

2(?) 2.27 m/s

17. 1.14 m/s

18. (a) up

(b) 196 N

(c) 467 N/m

19. (a) $h = 0.45 \text{ m}$

(b) 2.96 m/s

20. 5.09 radians

21. 72°

22. 157 radians/s

23. $3.25 \times 10^3 \text{ rpm}$

24. 15.9 rotations (divide the distance by the radius in ft)

25. 100 radians (divide the distance by the radius in ft)

26. 1.8×10^3 joules

27. 28 m/s

28. D

29. (a) 343 N and 833 N (b) 0.57 from the center

30. (a) 1.1×10^3 lb. (b) 67 lbs (c) 1.25×10^4 joules (d) 42 meters

31. $T = 8.6 \times 10^3$ N $F_{Tj} = -238$ N $F_{Ti} = 8.1 \times 10^3$ N

$F_{\text{reaction (net)}} = 8.1 \times 10^3$ N at -1.7°