

Answers to exams given by Professor Mallinckrodt
Physics 132—Winter 2006

Midterm

1. a) $3.26 \times 10^6 \text{ m/s}^2$ (!!)
 2. a) 0.393 s
 3. a) 12.0 m/s
 4. 11.8 cm
 5. a) 638 g
 6. b) 1.88 y
- EC: 2.13 y

- b) 8.81 s (!!)
- b) 2.08 m/s
- b) 107 kPa
- b) 0.16% faster at top
- c) 0.708 y
- d) 9.9%

Final Exam

1. a) 8.61 Hz
 2. a) $2.73 \times 10^3 \text{ kg/m}^3$
 3. a) -139 J
 4. a) 34.2 cm
 5. a) ~ .3 to .7 m^3
- d) ~20 to 100 W

- b) Low by a factor of two
- b) Because rocky stuff has a density of about 3 to 5 $\times 10^3 \text{ kg/m}^3$
- b) 139 J
- c) 14.4 kPa
- d) -106 J
- f) 32.2 J
- g) 23.2%
- b) volume decreases (because of greater pressure)
- d) It sinks
- b) ~1 to 2 cm
- c) ~ 20 °C
- e) ~ a day