

Fall 2007 Math 151
Sample Exam 2 Review Exercises -
Answers

1. e
2. c
3. c
4. a
5. a
6. e
7. d
8. b
9. c
10. c
11. b
12. a
13. b
14. a
15. c
16. c
17. c
18. c
19. a
20. a.) $L(x) = 1 + \frac{1}{4}x$
b.) $\sqrt[4]{1.01} \approx \frac{401}{400}$ or 1.0025
21. Velocity: $\langle -1, 1 \rangle$; Speed: $\sqrt{2}$ units of distance/units of time.
22. $\Delta v \approx dv = 2.56\pi$ cubic inches.

23. $x = \frac{\pi}{4}, x = \frac{3\pi}{4}, x = \frac{5\pi}{4}, x = \frac{7\pi}{4}$.

24. $\frac{dh}{dt} = \frac{1}{2}$ feet per minute.

25. $x_2 = \frac{21}{10} = 2.01$

26. Vector equation: $\langle 2 + 9t, 2 + 6t \rangle$;
Parametric equation: $x = 2 + 9t, y = 2 + 6t$,
Cartesian: $y - 2 = \frac{2}{3}(x - 2)$

27. The boat is docking at a speed of $\frac{13}{6}$ feet per second.