

MATH 34A MIDTERM 2 REVIEW

1. Practice exam: <http://math.ucsb.edu/~drewj/resources/Teaching/34A/Exams/practiceexam2.pdf>
 2. Textbook p.260-263: It has log, half-life, mixing, and express-in-terms-of problems.
 3. Midterm review session: W 1-3 SH6635: I will answer questions on the board from 1-2 and individually from 2-3.
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HW7 #9. An airline sells all the tickets for a certain route at the same price. If it charges 200 dollars per ticket it sells 10,000 tickets. For every 5 dollars the ticket price is reduced, an extra thousand tickets are sold. Thus if the tickets are sold for 195 dollars each then 11,000 tickets sell. It costs the airline 100 dollars to fly a person. Express the total profit P in terms of the price p of one ticket.

Practice. A commuter railway has 800 passengers per day and charges each one \$2. For each 2 cents that the fare is increased, 5 fewer people will go by train. Express the income from the train in terms of the ticket price.

Chapter 6.3. Interpolation and Extrapolation

1. The average sea-level in 2000 at London-bridge was 35 feet. In 2005 it was 35.03 feet. Use linear extrapolation to estimate when the average sea-level will be 37 feet.

Chapter 7.3. Using Log Tables

2. Use the fact that $\log(2) \approx 0.3$ and $\log(7) \approx 0.85$ to find $\log(1400)$ and $\log(0.000014)$.

Chapter 7.5. Using Logs to Multiply and Divide

3. Use the above and $\log(4.3) \approx 0.63$ to find $4300 \times 0.00043/1400$.

Chapter 7.6. Using Logs to Find Powers of Numbers

4. Use the fact that $\log 3 \approx 0.48$ and $\log 5 \approx 0.7$ to find $3^{10}/5^{14}$ and $\sqrt[4]{3}$.

Chapter 7.9. Applications of Exponential Functions

5. Solve for x in $2 \cdot 5^x = 3 \cdot 7^{2x+1}$.

6. It takes 20 years for 98 grams of a certain element to decay to 23 grams. What is its half-life?

7. The doubling-time of a certain bacteria is 3 hours. How long does it take for the amount to triple?

8. A bank pays 4% interest compounded monthly. How many years does it take \$5000 to grow to a million?