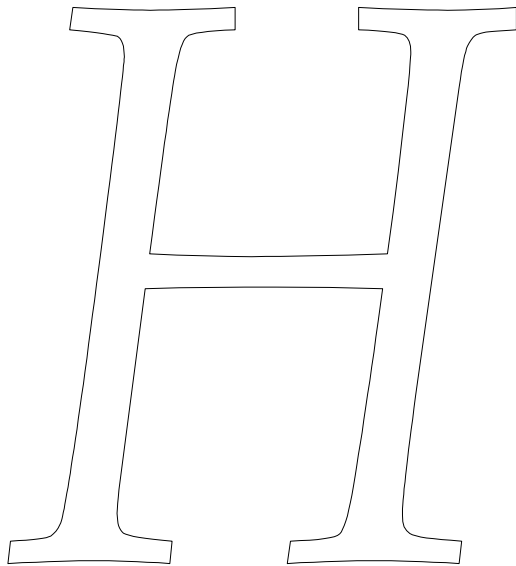


REMT 2007

ANSWERS



- 1. _____
- 2. _____
- 3. _____
- 4. _____
- 5. _____
- 6. _____
- 7. _____
- 8. _____
- 9. _____
- 10. _____
- 11. _____
- 12. _____
- 13. _____
- 14. _____
- 15. _____

MATHEMATICAL

LOGISTICS

LAST NAME

FIRST NAME

GRADE

1. What is the exact value of the repeating decimal $.3888\dots$, where the 8's repeat indefinitely?
2. If a fair coin is flipped five times, what is the probability that it comes up heads three or more times?
3. If two standard dice are rolled, what is the probability that the sum of the numbers showing is six or less?
4. There were eight students in a certain class; their average midterm score was 80. One student, who had a midterm score of 59, dropped the class. What is the average midterm score of the remaining students?
5. There are 150 seniors at my school who are taking either calculus or chemistry or both. If there are 105 seniors taking calculus and 75 seniors taking chemistry, how many of them are taking both calculus and chemistry?

6. What is the sum of the roots of the third-degree polynomial $x^3 - 6x - 5$?

7. The product of two real numbers is 18 and the sum of their reciprocals is $\frac{5}{6}$. What is the sum of these two numbers?

8. On a recent trip I drove $\frac{2}{3}$ of the way on the freeway where I averaged 55 miles per hour. The rest of the way, on city streets, I averaged 33 miles per hour. What was my average speed, in miles per hour, for the whole trip?

9. A certain pasture can support a flock of 20 goats for 70 days. The same pasture can support a flock of 50 sheep for 105 days. For how many days could this pasture support all the goats and sheep together?

10. A certain theater has 30 seats in the first row. Each other row has one more seat than the row in front of it. If there are 26 rows altogether, how many seats are there in the theater?

11. How many interior diagonals can be drawn in a regular 13-sided polygon?

12. I have to create a password to protect some computer files. The password must consist of a sequence of two letters followed by three digits. How many possible passwords are there?

13. As a bonus for signing up with U-Tunes, you get to choose any three of this week's top ten songs to download for free. In how many ways can you make this selection?

14. My favorite restaurant has a choice of three different salads, five different main dishes, and four desserts. How many distinct three-course meals are there on the menu?

15. A certain redwood tree grew to 60% of its current height in its first century of life. In its second century it increased its height by $\frac{1}{3}$. Since then it has added another 50 feet to its stature. How many feet tall is this redwood tree today?