AMC 12/AHSME
2005

1. A scout troop buys 1000 candy bars at a price of x for $2. They sell all the candy bars at a price of two for $1. What was their profit, in dollars?
   (A) 100  (B) 200  (C) 300  (D) 400  (E) 500

2. A positive number x has the property that x% of x is 4. What is x?
   (A) 2  (B) 4  (C) 10  (D) 20  (E) 40

3. Brianna is using part of the money she earned on her weekend job to buy a set of equally-priced CDs. She used one fifth of her money to buy one third of the CDs. What fraction of her money will she have left after she buys all the CDs?
   (A) $\frac{1}{5}$  (B) $\frac{1}{3}$  (C) $\frac{2}{3}$  (D) $\frac{2}{5}$  (E) $\frac{3}{5}$

4. At the beginning of the 2001 school year, Lisa's goal was to earn an A on at least 80% of her 50 quizzes for the year, she earned an A on 22 of her 30 quizzes. If she is to achieve her goal, on at least how many of the remaining quizzes can she earn a grade lower than an A?
   (A) 1  (B) 2  (C) 3  (D) 4  (E) 5

5. An 8-foot by 10-foot oor is tiled with square tiles of size 1 foot by 1 foot. Each tile has a pattern consisting of four white quarter circles of radius 1/2 foot centered at each corner of the tile. The remaining portion of the tile is shaded. How many square feet of the oor are shaded?

   ![Diagram](image)

   (A) 80 - 20$\pi$  (B) 60 - 10$\pi$  (C) 80 - 10$\pi$  (D) 60 + 10$\pi$  (E) 80 + 10$\pi$

6. In $\triangle ABC$, we have $AC = BC = 7$ and $AB = 2$. Suppose that $D$ is a point on line $AB$ such that $B$ lies between $A$ and $D$ and $CD = 8$. What is $BD$?
   (A) 3  (B) $2\sqrt{3}$  (C) 4  (D) 5  (E) $4\sqrt{2}$

7. What is the area enclosed by the graph of $|3x| + |4y| = 12$?
   (A) 6  (B) 12  (C) 16  (D) 24  (E) 25