

# Sample Questions

## 2008 AMC 10A

12. In a collection of red, blue, and green marbles, there are 25% more red marbles than blue marbles, and there are 60% more green marbles than red marbles. Suppose that there are  $r$  red marbles. What is the total number of marbles in the collection?
- (A)  $2.85r$       (B)  $3r$       (C)  $3.4r$   
(D)  $3.85r$       (E)  $4.25r$

## 2008 AMC 10A/12A

- 10A-4; 12A-3. Suppose that  $\frac{2}{3}$  of 10 bananas are worth as much as 8 oranges. How many oranges are worth as much as  $\frac{1}{2}$  of 5 bananas?
- (A) 2      (B)  $\frac{5}{2}$       (C) 3      (D)  $\frac{7}{2}$   
(E) 4

- 10A-13; 12A-10. Doug can paint a room in 5 hours. Dave can paint the same room in 7 hours. Doug and Dave paint the room together and take a one-hour break for lunch. Let  $t$  be the total time, in hours, required for them to complete the job working together, including lunch. Which of the following equations is satisfied by  $t$ ?
- (A)  $(\frac{1}{5} + \frac{1}{7})(t + 1) = 1$       (B)  $(\frac{1}{5} + \frac{1}{7})t + 1 = 1$   
(C)  $(\frac{1}{5} + \frac{1}{7})t = 1$       (D)  $(\frac{1}{5} + \frac{1}{7})(t - 1) = 1$   
(E)  $(5 + 7)t = 1$

## 2008 AMC 12A

14. What is the area of the region defined by the inequality  $|3x - 18| + |2y + 7| \leq 3$ ?
- (A) 3      (B)  $\frac{7}{2}$       (C) 4      (D)  $\frac{9}{2}$   
(E) 5
18. Triangle  $ABC$ , with sides of length 5, 6, and 7, has one vertex on the positive  $x$ -axis, one on the positive  $y$ -axis, and one on the positive  $z$ -axis. Let  $O$  be the origin. What is the volume of tetrahedron  $OABC$ ?
- (A)  $\sqrt{85}$       (B)  $\sqrt{90}$       (C)  $\sqrt{95}$   
(D) 10      (E)  $\sqrt{105}$

12A-14.(A); 12A-18.(C)

10A-12.(C); 10A-4 + 12A-3.(C); 10A-13 + 12A-10.(D);