

## 5. 2004 AMC 8 SAMPLE QUESTIONS

7. An athlete's target heart rate, in beats per minute, is 80% of the theoretical maximum heart rate. The maximum heart rate is found by subtracting the athlete's age, in years, from 220. To the nearest whole number, what is the target heart rate of an athlete who is 26 years old?

- (A) 134 (B) 155 (C) 176 (D) 194 (E) 243

14. What is the area enclosed by the geoboard quadrilateral to the right?



- (A) 15 (B)  $18\frac{1}{2}$  (C)  $22\frac{1}{2}$  (D) 27 (E) 41

16. Two 600 ml pitchers contain orange juice. One pitcher is  $\frac{1}{3}$  full and the other pitcher  $\frac{2}{5}$  full. Water is added to fill each pitcher completely, then both pitchers are poured into one large container. What fraction of the mixture in the large container is orange juice?

- (A)  $\frac{1}{8}$  (B)  $\frac{3}{16}$  (C)  $\frac{11}{30}$  (D)  $\frac{11}{19}$  (E)  $\frac{11}{15}$

17. Three friends have a total of 6 identical pencils, and each one has at least one pencil. In how many ways can this happen?

- (A) 1 (B) 3 (C) 6 (D) 10 (E) 12

21. Spinners A and B are spun. On each spinner, the arrow is equally likely to land on each number. What is the probability that the product of the two spinners numbers is even?



- (A)  $\frac{1}{4}$  (B)  $\frac{1}{3}$  (C)  $\frac{1}{2}$  (D)  $\frac{2}{3}$  (E)  $\frac{3}{4}$