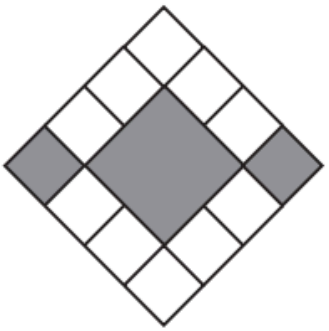
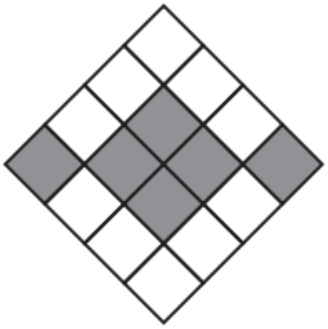
2008 Q6

6. In the figure, what is the ratio of the area of the gray squares to the area of the white squares?



(A) 3 : 10 **(B)** 3 : 8 **(C)** 3 : 7 **(D)** 3 : 5 **(E)** 1 : 1

6. **Answer (D):** After subdividing the central gray square as shown, 6 of the 16 congruent squares are gray and 10 are white. Therefore, the ratio of the area of the gray squares to the area of the white squares is 6 : 10 or 3 : 5.



2017 Q6

6. If the degree measures of the angles of a triangle are in the ratio 3 : 3 : 4, what is the degree measure of the largest angle of the triangle?

(A) 18 **(B)** 36 **(C)** 60 **(D)** 72 **(E)** 90

6. **Answer (D):** Let the degree measures of the angles of the triangle be $3x$, $3x$, and $4x$. Then $3x + 3x + 4x = 10x = 180$, and $x = 18$. So the largest angle has degree measure $4x = 4 \cdot 18 = 72$.

OR

The degree measure of the largest angle is $\frac{4}{3+3+4} = \frac{2}{5}$ of the sum of the degree measures of the angles in the triangle, so it is $\frac{2}{5} \cdot 180 = 72$ degrees.

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2014 Q7

7. There are four more girls than boys in Ms. Raub's class of 28 students. What is the ratio of the number of girls to the number of boys in her class?

(A) 3 : 4 **(B)** 4 : 3 **(C)** 3 : 2 **(D)** 7 : 4 **(E)** 2 : 1

7. **Answer (B):** If there were an equal number of girls and boys, there would be 14 of each. By increasing the number of girls by 2 and decreasing the number of boys by 2, we see that there are 16 girls and 12 boys for a ratio of 16 : 12 or 4 : 3.

OR

If there were 4 fewer girls, then the class would be half boys and half girls. Remove 4 girls from the 28, and the other 24 students are evenly split into 12 boys and 12 girls. Add back the 4 girls to get 16 girls and 12 boys for a 16 : 12 ratio, which simplifies to 4 : 3.