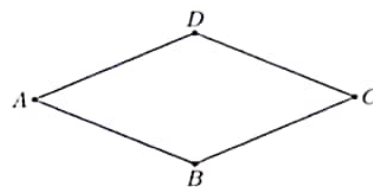Quadrilateral $ABCD$ is a rhombus with perimeter 52 meters. The length of diagonal $\overline{AC}$ is 24 meters. What is the area in square meters of rhombus $ABCD$?

(A) 60　　(B) 90　　(C) 105　　(D) 120　　(E) 144

选择一项:

○ A

○ B

○ C

○ D

⸱ E ✗

正确答案是：D

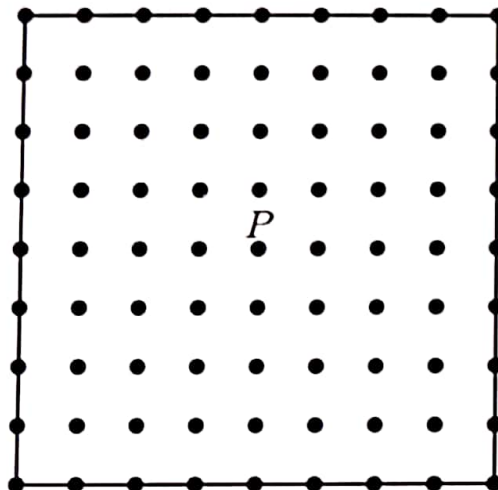A tortoise challenges a hare to a race. The hare eagerly agrees and quickly runs ahead.

There are 81 grid points (uniformly spaced) in the square shown in the diagram below, including the points on the edges. Point P is in the center of the square. Given that point Q is randomly chosen among the other 80 points, what is the probability that the line PQ is a line of symmetry for the square?

(A) $\frac{1}{5}$ (B) $\frac{1}{4}$ (C) $\frac{2}{5}$ (D) $\frac{9}{20}$ (E) $\frac{1}{2}$

选择一项:

○ A

○ B

○ C

　 D ✗

○ E

正确答案是: C

Alex and Felicia each have cats as pets. Alex buys cat food in cylindrical cans that are 6 cm in diameter and 12 cm high. Felicia buys cat food in cylindrical cans that are 12 cm in diameter and 6 cm high. What is the ratio of the volume one of Alex's cans to the volume one of Felicia's cans?

(A) $1:4$ (B) $1:2$ (C) $1:1$ (D) $2:1$ (E) $4:1$

选择一项：

○ A

○ B

○ C ✗

○ D

○ E

正确答案是：B

On a beach 50 people are wearing sunglasses and 35 people are wearing caps. Some people are wearing both sunglasses and caps. If one of the people wearing a cap is selected at random, the probability that this person is is also wearing sunglasses is $\frac{2}{5}$. If instead, someone wearing sunglasses is selected at random, what is the probability that this person is also wearing a cap?

(A) $\frac{14}{85}$ (B) $\frac{7}{25}$ (C) $\frac{2}{5}$ (D) $\frac{4}{7}$ (E) $\frac{7}{10}$

选择一项：

- A ✗
- B
- C
- D
- E

正确答案是：B

In a tournament there are six team that play each other twice. A team earns 3 points for a win, 1 point for a draw, and 0 points for a loss. After all the games have been played it turns out that the top three teams earned the same number of total points. What is the greatest possible number of total points for each of the top three teams?

(A) 22   (B) 23   (C) 24   (D) 26   (E) 30

选择一项：

○ A

○ B

○ C

⌣ D ✗

○ E

正确答案是：C

A store increased the original price of a shirt by a certain percent and then decreased the new price by the same amount. Given that the resulting price was 84% of the original price, by what percent was the price increased and decreased?

(A) 16   (B) 20   (C) 28   (D) 36   (E) 40

选择一项：

○ A

   B ✗

○ C

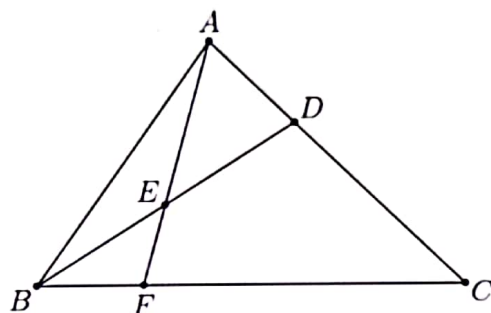○ D

○ E

正确答案是：E

In triangle ABC, point D divides side $\overline{AC}$ s that $AD : DC = 1 : 2$. Let E be the midpoint of $\overline{BD}$ and left F be the point of intersection of line BC and line AE. Given that the area of $\triangle ABC$ is 360, what is the area of $\triangle EBF$?

(A) 24   (B) 30   (C) 32   (D) 36   (E) 40

选择一项:

○ A

○ B

○ C

＿ D ✗

○ E

正确答案是：B