Think Academy

2025 Oct. AMC8 Mock

1 （1分）A computer makes 4×10^9 operations per second. How many operations does it make in 5×10^2 seconds?

A. 4×10^{11} B. 2×10^{11} C. 2×10^{12} D. 20×10^{18} E. 2×10^{19}

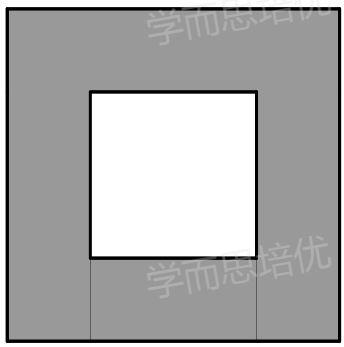
2 （1分）When Jason is calculating $(3+\square) \times 0.56$, he copies the wrong expression: $3+\square \times 0.56$, and gets a wrong answer. What is the difference between the correct answer and the wrong one that Jason gets?

A. 3 B. 0.56 C. 1.12 D. 1.32 E. 1.68

3 （1分）The number of flowers in a garden is between 40 and 50. The ratio of the number of carnations to that of daisies is $5:4$. There are _____ more carnations than daisies in the garden.

A. 3 B. 5 C. 9 D. 10 E. 15

4 （1分）The side length of the large square is twice that of the small square. What is the ratio of the area of the small square to that of the shaded part?



A. $1:4$ B. $1:3$ C. $3:1$ D. $1:2$ E. $2:1$

5 （1分）What is the result of $\frac{2^2}{2^2-1} \times \frac{3^2}{3^2-1} \times \cdots \times \frac{99^2}{99^2-1}$?

A. $\frac{99}{50}$ B. $\frac{99}{100}$ C. $\frac{1}{99}$ D. $\frac{99}{200}$ E. $\frac{50}{99}$

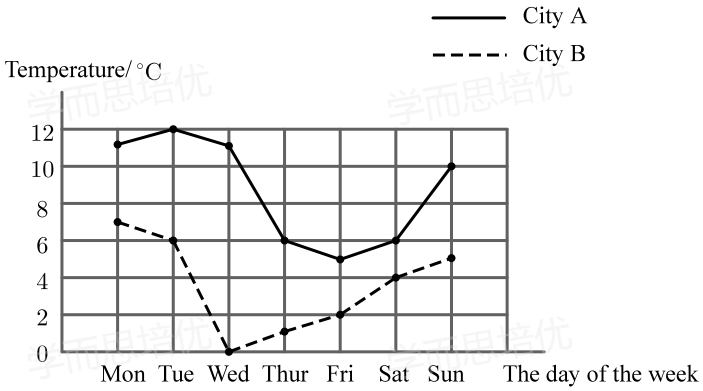
6 （1分）Peter the ant is trying to climb out of an 18-meter deep well. Every time it climbs 6 meters, it falls down 2 meters. It takes at least _____ times of climbing for Peter the ant to get out of the well.

A. 2 B. 3 C. 4 D. 5 E. 6

7 （1分）Four teachers: Irene, Valeria, Tiffany, and Claire line up to take a photo. If Irene wants to stand in the most left side of the line, in how many different ways can they line up to take the photo?

A. 6 B. 8 C. 12 D. 16 E. 24

8 （1分）The graph below shows the lowest temperature in City A and City B in the first week of March. Which of the following options is wrong?



A. On Saturday, the temperature difference between City A and City B is the lowest, which is $2°C$.

B. The difference between the average of the temperatures of the whole week in City A and that in City B is around $4°C$.

C. The range of the temperatures in City A and that in City B are the same, which is around $7°C$.

D. On Wednesday, the temperature difference between City A and City B is the highest, which is around $11°C$.

E. The median of the temperatures in City B is $4°C$.

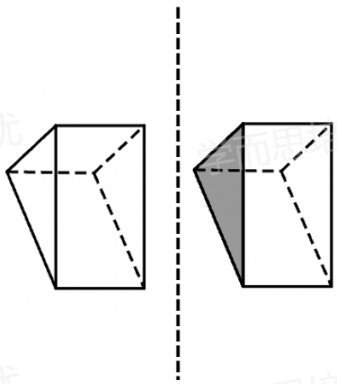
9 （1分）Find the result of $1 \times 12 \times 23 \times 34 \times 45 \times \cdots \times 78 \times 89$. What is the sum of its last 2 digits?

A. 9 B. 8 C. 4 D. 2 E. 7

10 （1分）A juice bar has 53 kg of apple juice, lemon juice, and kiwi juice in total. The weight of apple juice is 3 kg less than 3 times that of lemon juice. The weight of kiwi juice is 2 kg more than twice that of lemon juice. What is the weight of lemon juice in the juice bar?

A. 9 kg B. 10 kg C. 11 kg D. 12 kg E. 13 kg

11 （1分）There is a triangular prism with the height of 12 cm. If William cuts the prism from the middle as shown below, its surface area will increase by 64 cm^2. What is the volume of the triangular prism?



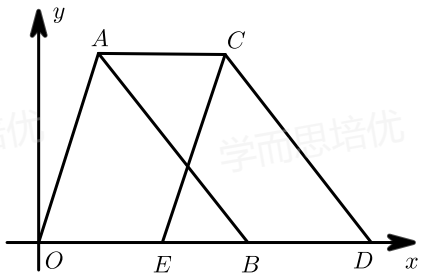
A. 768 cm^3 B. 512 cm^3 C. 488 cm^3 D. 392 cm^3 E. 384 cm^3

12 （1分）James and John divide a wheel spinner evenly into five pieces, and mark them with number 1-5, respectively. James says, "we each spin the wheel spinner once and add up the two numbers we get. If the sum is even, I win the game. If the sum is odd, you

win the game." What is the probability that James wins?

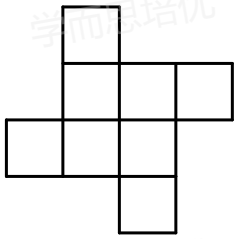
A. $\frac{2}{5}$ B. $\frac{12}{25}$ C. $\frac{1}{2}$ D. $\frac{13}{25}$ E. $\frac{3}{5}$

13 （1分）As shown below, the coordinates of point A is $(1,3)$, and point B is on x—axis. Translate $\triangle OAB$ to the right and get $\triangle ECD$. If the area of quadrilateral $ABDC$ is 6, what is the coordinates of point C?



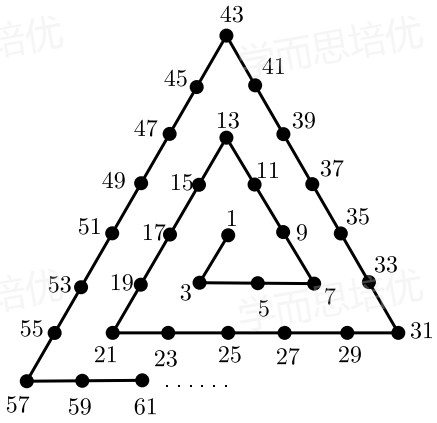
A. $(6,3)$ B. $(5,3)$ C. $(4,3)$ D. $(3,3)$ E. $(2,3)$

14 （1分）Put $1-8$, without repetition, into the number puzzle below so that the sums of the three numbers in each row/column are the same. What is the smallest value of the sum of each row/column?



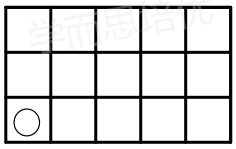
A. 11 B. 12 C. 13 D. 14 E. 15

15 （1分）Arrange the odd number sequence 1, 3, 5, 7, 9, $\cdots$ on a line as shown below. The line first turns at number 3, then turns at number 7, 13, 21, etc. Which number is the tenth turn at?



A. 55 B. 91 C. 100 D. 105 E. 111

16 （1分）As shown below, a chess piece is placed on the bottom left square of the board. The chess piece can be moved by only one square to the right or up at a time. How many ways are there to move it from the bottom left square of the board to the top right square?



A. 11 B. 13 C. 15 D. 17 E. 18

17 （1分）The cinema has a sales campaign for a new movie, which gives every audience a 3-dollar coupon for the movie tickets. In this campaign, the sales of the movie tickets increased by 50%, and the revenue of movie tickets increased by 20%. What is the original price of the new movie?

A. 12 dollars B. 15 dollars C. 24 dollars D. 25 dollars E. 30 dollars

18 （1分）Jerry goes to the train station by motorcycle. If he rides at the speed of 30 km/h, then he will arrive 15 minutes earlier than the train's departure. If he rides at the speed of 18 km/h, then he will arrive 15 minutes later than the train's departure. If Jerry wants to arrive at the train station 10 minutes earlier than the train's departure, what speed should he ride at?

A. 25 km/h B. 27 km/h C. 28 km/h D. 29 km/h E. 31 km/h

19 （1分）Thirty teams are having football matches in San Jose. There is only one match between each two teams. The winning team in each game gets 3 points, the losing team gets no points, and in the case of a draw, each team gets 1 point. After all matches, the total score of each team is counted and ranked. What is the sum of scores of the bottom six teams at least?

A. 0 B. 6 C. 15 D. 30 E. 45

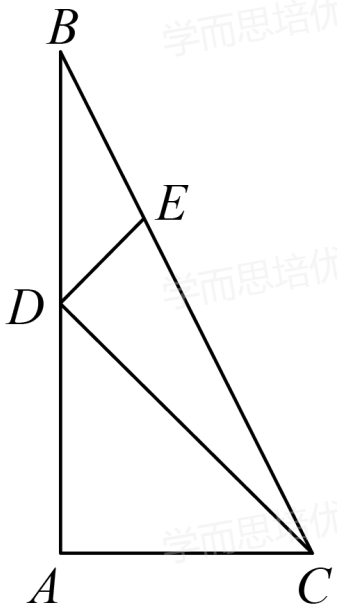
20 （1分）Crystal finds a kind of number, which leaves a remainder of 1 when divided by 2, leaves a remainder of 2 when divided by 3, leaves a remainder of 3 when divided by 4, leaves a remainder of 4 when divided by 5, and leaves a remainder of 5 when divided by 6. How many 3–digit numbers match the condition?

A. 3 B. 5 C. 10 D. 15 E. 20

21 （1分）We define a kind of number as "Beautiful Number". Each time its digit is removed from the right side, the new number formed is prime. Each time its digit is removed from the left side, the new number formed is composite. For example, 7194 is a "Beautiful Number" because 719, 71, and 7 are prime while 194, 94, and 4 are composite. What is the digit sum of the smallest 4–digit "Beautiful Number"?

A. 10 B. 11 C. 12 D. 13 E. 14

22 （1分）Triangle ADC is an isosceles right triangle, $\angle A = \angle EDC = 90°$. $AC = 30$, and $AB = 60$. What is the area of triangle BDE?

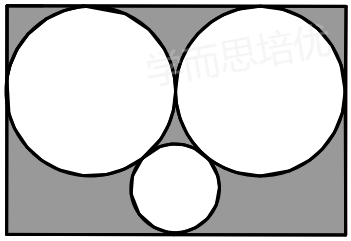


A. 150 B. 180 C. 210 D. 240 E. 300

23 （1分）There are many judges in a dancing competition. The highest score given by each judge is 10. For the first candidate, the average of the scores from all judges is 9.64. If the highest score is dropped, the average of the other scores is 9.6. If the lowest score is dropped, the average of the other scores is 9.68. The minimum of the lowest score is _____ .

A. 9 B. 9.12 C. 9.16 D. 9.24 E. 9.28

24 （1分）As shown below, there are three circles inscribed in the rectangle, and each two of them are tangent to each other. The radius of the two big circles is 3 cm, and the radius of the small circle is 2 cm. What is the total area of the shaded parts? ($\pi \approx 3$)



A. 40 cm^2 B. 42 cm^2 C. 44 cm^2 D. 46 cm^2 E. 48 cm^2

25 （1分）Create a four-digit number $\overline{abcd}$ (a, b, c, and d are different from each other). What is the probability that both the difference between a and c and the difference between b and d are 2?

A. $\frac{125}{1512}$ B. $\frac{7}{162}$ C. $\frac{53}{648}$ D. $\frac{4}{81}$ E. $\frac{41}{1134}$