Instructions:

• You have 50 minutes to answer the 20 questions.
• Record your answer for each question on the separate answer sheet.
• There is no penalty for incorrect answers, so answer every question.
• Good luck!

Sponsors:

PART A: Record the correct answer on the separate answer sheet. Each correct answer is worth **5 points.**

1. Seats in one section of the Saddledome are laid out in rows, where each row has a number. The seats along each row are given a letter. If there are rows 1 to 8, and each row is labelled from "A" to "L", then how many seats are there in that section?
   (a) 20   (b) 80   (c) 96   (d) 120

2. The number 2024 is tripled. The tens digit in the resulting number is:
   (a) 5   (b) 6   (c) 7   (d) 8

3. Two numbers have a sum of 22. If one of the numbers is -26, then what is the other number?
   (a) 4   (b) -4 (c) 48   (d) -48

4. What time will it be 345 minutes after $3\!:\!45$ pm?
   (a) $7\!:\!30$ pm   (b) $8\!:\!30$ pm   (c) $9\!:\!30$ pm   (d) $10\!:\!30$ pm

5. A square has an area of $36\,\text{cm}^2$. What is its perimeter?
   (a) $12\,\text{cm}$ (b) $18\,\text{cm}$ (c) $24\,\text{cm}$ (d) $36\,\text{cm}$

6. A long piece of lumber weighs 15 lbs. If it is cut into 3 equal pieces, and each of these pieces is cut in half, then what is the weight of one piece?
   (a) 2 lbs   (b) 2.5 lbs   (c) 3 lbs   (d) 3.5 lbs

7. As a decimal, $1 + 8/100 + 2/10$ is:
   (a) 18.2   (b) 1.82   (c) 12.8   (d) 1.28

8. The perimeter of the figure below is:
   (a) $8\,\text{cm}$ (b) $16\,\text{cm}$ (c) $32\,\text{cm}$ (d) $64\,\text{cm}$
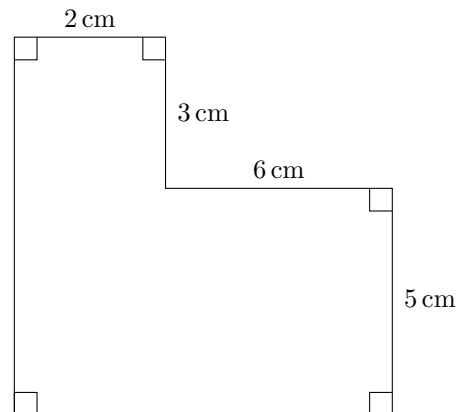
9. Brady writes a list of numbers. His first number is 5. Each number after the first number is 7 more than the previous number. Which of the following numbers appear on Brady's list:
   (a) 60   (b) 61   (c) 62   (d) 63

10. Erin can solve 10 math problems in 4 minutes. How many seconds does it take her to solve 7 math problems?
    (a) 160 s   (b) 168 s   (c) 175 s   (d) 182 s

PART B: Record the correct answer on the separate answer sheet. Each correct answer is worth **6 points.**

11. My 3 friends and I are splitting the cost of dinner evenly, but I paid the whole bill. If the bill was $ 120 then how much does each friend owe me?

    (a) $ 20   (b) $ 30   (c) $ 33.33   (d) $ 40

12. The diagram below shows a magic square in which the sums of the numbers in any row, column or diagonal are all equal. What is the value of n?

    (a) 10   (b) 11   (c) 12   (d) 13

8		
9		5
4	n	

13. January 1, 2024 was a Monday, and 2024 is a leap year. How many Mondays will there be in 2024?

    (a) 48   (b) 51   (c) 52   (d) 53

14. In a group of 40 students,

    - 20 of them study at least French
    - 10 of them study at least Spanish
    - 5 of them study both languages.

    How many of the students study neither language?

    (a) 5   (b) 10   (c) 15   (d) 20

15. I am buying hats and shoes for my pet ants and pet spiders. Each ant has six legs, and each spider has eight legs, and everyone gets a hat. If I need to buy exactly 14 hats and 102 shoes, then how many spiders do I have?

    (a) 5   (b) 9   (c) 10   (d) 14

PART C: Record the correct answer on the separate answer sheet. Each correct answer is worth **8 points.**

16. A cube with side length 1 m, has been cut into cubes of side length 10 cm. All the smaller cubes are put one atop of the other to form a vertical structure. What is the height of this structure?

    (a) 10 m   (b) 100 m   (c) 1 km   (d) 10 km

17. Rectangles $ABCD$ and $DCEF$ are identical. Each has perimeter 30 cm. Rectangle $ABEF$ has perimeter 50 cm. What is the area of the rectangle $ABEF$?
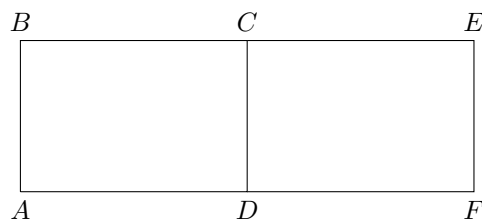
    (a) $60 \, \text{cm}^2$ (b) $80 \, \text{cm}^2$ (c) $100 \, \text{cm}^2$ (d) $200 \, \text{cm}^2$.

18. Suppose each one of the letters B, O, A, T represents a different digit from $0, 1, 2, 3, 4, 5, 6, 7, 8$ and 9. If the sum of the numbers formed from the given letters is as shown below, then what is the sum BO + AT?

    $$
    \begin{array}{r}
    \text{BOAT} \\
    \text{OAT} \\
    + \quad \text{AT} \\
    \hline
    1234
    \end{array}
    $$

    (a) 56   (b) 10   (c) 62   (d) 88

19. I have two parents, and they each have two parents (my grandparents), each of which have two parents (my great-grandparents), and so on. How many great-great-great-great-grandparents do I have?

    (a) 16   (b) 32   (c) 64   (d) 80

20. In an election for class president, there are four candidates. 61 votes are cast and each student voted at most once. The candidate with the highest number of votes is the winner. The smallest number of votes the winner can receive is

    (a) 15   (b) 16   (c) 21   (d) 30