



**Tenth Annual  
Calgary Elementary School  
Mathematics Contest**  
April 27, 2022

**LEVEL-2 CONTEST**

**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:**



Pacific Institute *for the*  
Mathematical Sciences

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

1.  $\frac{10}{0.1} - 10$  is equal to  
(a) 90      (b) 50      (c) 100      (d) 0
  
2. If  $A = \frac{0.1}{0.5}$ ,  $B = \frac{0.5}{1}$ , and  $C = \frac{1}{0.5}$ , then in order of size  
(a)  $B > A > C$       (b)  $C > A > B$   
(c)  $A > C > B$       (d)  $C > B > A$

3. In the sequence 5, 16, 27, ... each term is 11 more than the previous term. Which of the following is a term in this sequence?

(a) 91      (b) 92      (c) 93      (d) 94

4. If the number pattern shown is continued, what is the second number in the fifteenth row?

first row →									1			
second row →								1	1			
third row →								1	2	1		
								1	3	3	1	
								1	4	6	4	1

(a) 16      (b) 15      (c) 14      (d) 5

5. A car dealer sells cars of three different colours, with or without radios, and with or without heated seats. How many choices of a car can a buyer choose from?

(a) 5      (b) 7      (c) 8      (d) 12

6. A certain town (Town A) has 1000 people and its population increases by 60 people each year. Another town (Town B) has 2000 people and its population increases by 10 people each year. How long will it be until the two towns have the same number of people?

(a) 10 year   (b) 15 years   (c) 20 years   (d) 25 years

7. An empty jar weighs 100 grams. When it is half-full it weighs 500 grams. How much will it weigh when it is full?

(a) 800 grams      (b) 900 grams  
(c) 1000 grams      (d) 1100 grams

8. Which of the following numbers is a multiple of 15 but not a multiple of 18?

(a) 180      (b) 320      (c) 360      (d) 420

9. A basketball tournament has 16 teams entered. Each team continues to play until it loses one game (no ties allowed). How many games are needed to determine the tournament champion?

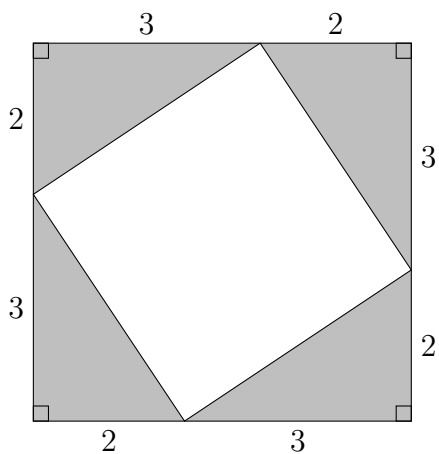
(a) 14      (b) 15      (c) 16      (d) 30

10. Which fraction is between  $\frac{1}{6}$  and  $\frac{1}{5}$ ?

(a)  $\frac{2}{11}$       (b)  $\frac{3}{8}$       (c)  $\frac{2}{9}$       (d)  $\frac{1}{4}$

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

11. Yassin walks at the constant rate of 2 km/hr. Julia walks at the constant rate of 4 km/hr. They start walking together at the same time and Julia arrives at their destination  $\frac{1}{2}$  hour before Yassin. What distance did they walk?  
(a) 1 km (b) 1.5 km (c) 2 km (d) 2.5 km
  
12. What is the most frequent sum of two distinct factors of 20?  
(a) 3 (b) 6 (c) 9 (d) 11
  
13. Five students wrote a mathematics contest. Their average mark was 68. If the marks of four students were 75, 62, 84, and 53, what was the mark of the fifth student?  
(a) 58 (b) 62 (c) 66 (d) 59
  
14. The sum of five consecutive whole numbers is 75. What is the sum of the largest and smallest of these five integers?  
(a) 30 (b) 25 (c) 20 (d) 15
  
15. In the figure below, what is the ratio of the shaded area to the area of the big square?



- (a)  $\frac{6}{25}$  (b)  $\frac{12}{25}$  (c)  $\frac{9}{25}$  (d)  $\frac{10}{25}$

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

16. Mariya visits her friend Anna and then returns home on the same route. She walks at 2km/hr when going uphill, at 6km/hr when going downhill and at 3km/hr when on level ground. If her total walking time is 6 hrs, then the total distance she walks is  
(a) 9 km (b) 12 km (c) 18 km (d) 22 km
  
17. If  $A \times B = 6$ ,  $A \times C = 9$ , and  $B \times C = 24$ , then a value of  $A \times B \times C$  is  
(a) 1296 (b) 648 (c) 48 (d) 36
  
18. Four kids received gifts. All of them received a different number of gifts. Zoe received the smallest number of gifts. The other three kids received a total of 20 gifts. What is the largest number of gifts that Zoe could have received?  
(a) 2 (b) 3 (c) 4 (d) 5
  
19. Twenty tickets are numbered 1 to 20. One ticket is drawn at random with each ticket having equal chance of being drawn. What is the chance that the number on the ticket is a multiple of 3 or 5?  
(a)  $\frac{2}{20}$  (b)  $\frac{4}{20}$  (c)  $\frac{6}{20}$  (d)  $\frac{9}{20}$
  
20. Laxmi likes multiples of three, John likes even numbers, and Abdul likes multiples of 5. Each of them went separately to a basket containing 8 balls with numbers written on them and took all the balls with numbers that they like. It turns out that John took balls with numbers 32 and 52. Laxmi took balls with numbers 24, 33, and 45. And Abdul collected balls with numbers 20, 25, and 35. In what order did they go to the basket?  
(a) Abdul, Laxmi, John (b) John, Abdul, Laxmi  
(c) Laxmi, John, Abdul (d) Laxmi, Abdul, John