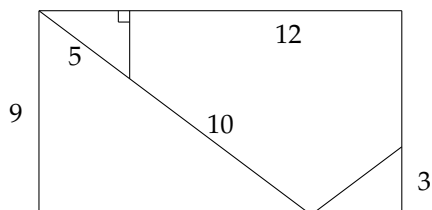


BRITISH COLUMBIA SECONDARY SCHOOL MATHEMATICS CONTEST, 2026

Junior Preliminary

March 4, 2026

- Given $2^x = 8^{y+1}$ and $9^y = 3^{x-9}$ the value of $x + y$ is:
(A) 18 (B) 21 (C) 24 (D) 27 (E) 33
- The factors of 6 are 1, 2, 3, 6, and the sum of all factors is 12. What is the sum of all the factors of 2026?
(A) 2027 (B) 3042 (C) 4149 (D) 6084 (E) 7156
- In a quadrilateral the four sides and one of the diagonals were measured. The obtained lengths are 1, 2, 2.8, 5 and 7.5, but not in any order. What is the length of the measured diagonal? (Recall that a quadrilateral is a four-sided polygon.)
(A) 1 (B) 2 (C) 2.8 (D) 5 (E) 7.5
- In five years from now Michael's age related to Erin's age will be 8 : 7. Find the sum of Michael's and Erin's ages now, given that one year ago Michael was twice as old as Erin.
(A) 5 (B) 9 (C) 14 (D) 18 (E) 26
- In a triangle ABC the degree measures of the angles A and B equal 50° and 70° , respectively. The two altitudes from the vertices A and B intersect at the point O . Find the degree measure of the angle AOB .
(A) 60° (B) 90° (C) 110° (D) 120° (E) 135°
- How many two-digit numbers satisfy each of the three following statements?
 - This number ends with 5 or it is divisible by 7 (or both).
 - This number is greater than 20 or it ends with 9 (or both).
 - This number is divisible by 12 or it is less than 21 (or both).(A) 0 (B) 1 (C) 2 or 3 (D) 4 or 5 (E) more than 5
- A rectangle is cut into pieces as shown. If the pieces are rearranged to form a square, then what is the perimeter of the square?



- (A) 48 (B) 64 (C) $16\sqrt{3}$ (D) 144 (E) $24\sqrt{2}$

8. Five people are accused of a robbery, but only one is guilty. Each gives a statement, but exactly two of the statements are false. This is enough to give a decisive answer. What single person is guilty?

Alex: It was Ben.

Ben: Alex is lying.

Cindy: Dennis is innocent.

Dennis: Ellie is innocent.

Ellie: Dennis is telling the truth.

- (A) Alex (B) Ben (C) Cindy (D) Dennis (E) Ellie
9. There are 200 units in a new condo tower in Metro Vancouver. In every condo, either one person lives alone, or 2 or 3 may share. The total number of people living in units 1 to 102 is 106, and the total number of people living in units 101 to 200 is 300. How many people live in this new condo tower?
- (A) 398 (B) 400 (C) 397 (D) 403 (E) 406
10. The 6-digit number $A2026A$ is a multiple of 8. The 6-digit number $B2026A$ is a multiple of 11. Find the value of $A + B$.
- (A) 9 (B) 6 (C) 5 (D) 11 (E) 8
11. Matchsticks can form each of the ten digits as follows:



How many 3-digit odd numbers can be formed using an odd number of matchsticks? For example



is a 3-digit odd number formed using an odd number of matchsticks.

- (A) 250 (B) 185 (C) 148 (D) 320 (E) 225
12. In a town, there are only 2 types of residents: Those who only tell the truth and those who only tell lies. 150 residents fill out a survey and below are the results. How many residents always lie?

Question	Number of answers "Yes"
Are you under 18 years old?	68
Are you from 18 to 35 years old?	45
Are you from 36 to 65 years old?	52
Are you over 65 years old?	75
Do you have kids?	72

- (A) 23 (B) 30 (C) 45 (D) 75 (E) 86