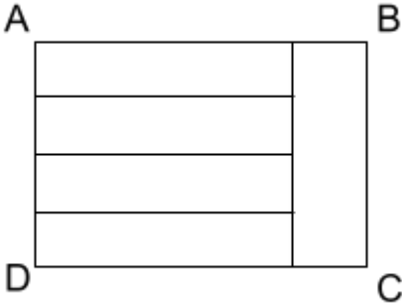


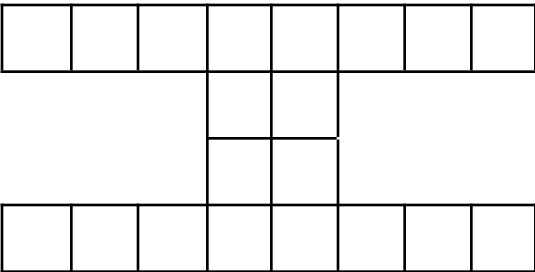
Exam for Grade 4

February 12, 2023

<p>A</p> <p>4 Points</p>	<p>Choose any number between 32 and 56. Add 20. Subtract 17. Add 13. Subtract your original number. What is the resulting number?</p>
<p>B</p> <p>8 Points</p>	<p>When 18 is divided by the whole number N, the remainder is 4. This is true for how many different values of N?</p>
<p>C</p> <p>9 Points</p>	<p>Rectangle ABCD is divided into five congruent smaller rectangles, as shown. The lengths BC and CD differ by 6 millimeters. What is the area of ABCD?</p> 
<p>D</p> <p>14 Points</p>	<p>Janine's number has three digits. One digit is a prime number. Another digit is a square number. The other digit is neither prime nor square. Her number is NOT divisible by 3. What is the greatest possible value of Janine's number?</p>
<p>E</p> <p>10 Points</p>	<p>A bowl contains 100 pieces of colored candy: 48 green, 30 red, 12 yellow, and 10 blue. They are all wrapped in foil, so you do not know the color of any piece of candy. What is the least number of pieces you must take to be certain that you have at least 15 pieces of the same color?</p>

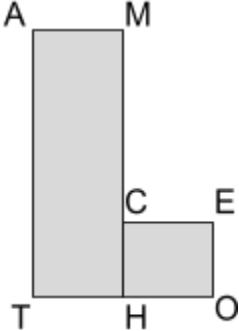
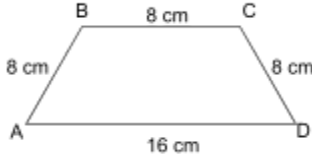
Exam for Grade 5

February 12, 2023

<p>A</p> <p>4 Points</p>	<p>What is the value of $(47 \times 8) + (8 \times 27) + (26 \times 8)$?</p>
<p>B</p> <p>5 Points</p>	<p>In the repeating pattern below, what will be the 78th letter written? ABBCCD ABBCCD..... (and so on)</p>
<p>C</p> <p>11 Points</p>	<p>Four volunteers can pack 12 boxes every 30 minutes. How many additional volunteers are needed to pack 72 boxes every hour? [Assume all volunteers work at the same rate.]</p>
<p>D</p> <p>12 Points</p>	<p>Each small region in the figure shown is a square. The area of the entire figure is 320 sq cm. What is the number of cm in the perimeter of the entire figure?</p> 
<p>E</p> <p>14 Points</p>	<p>The pages of a book are numbered consecutively, beginning with 1. The digit 7 is printed 25 times in numbering the pages. What is the largest number of pages the book can have?</p>

Exam for Grade 6

February 12, 2023

<p>A</p> <p>6 Points</p>	<p>What is the greatest number of Mondays that can occur in 45 consecutive days?</p>
<p>B</p> <p>6 Points</p>	<p>Mrs. Saada is between 50 and 80 years old. If you divide her age by 9, the remainder is 1. If you divide her age by 4, the remainder is 1. How old is Mrs. Saada?</p>
<p>C</p> <p>14 Points</p>	<p>The area of the rectangle MATH is 30 sq cm and each side length is a counting number of cm. H is the midpoint of \overline{TO}. The area of square ECHO is between 5 sq cm and 24 sq cm. Find the perimeter of the entire figure, in cm.</p> 
<p>D</p> <p>10 Points</p>	<p>If 4 people can paint 2 fences in 5 hours, how many hours in all will it take for 8 people to paint 8 fences?</p>
<p>E</p> <p>9 Points</p>	<p>Two bugs walk from point A to point D along the sides of figure ABCD. They start and finish together. The first bug walks from A to B to C to D at an average speed of 3 cm per second. The second bug walks directly from A to D. What is the average speed of the second bug?</p> 

Exam for Grade 7

February 12, 2023

A 5 Points	Chloe divides the number N by 14 correctly and gets 5. Mia misreads the division sign as an addition sign and adds 14 to N . What sum does Mia get?
B 6 Points	Michael has \$5 less than Samantha. Samantha has \$10 more than Rob. Rob has \$15 less than Hailey. How many more dollars does Hailey have than Micheal?
C 11 Points	A sports arena has a total capacity of 20,000 fans and ushers. One usher is required for every 30 fans. What is the greatest number of fans that can be in attendance?
D 10 Points	Bert has 40% more jelly beans than Vicki. What fractional part of Bert's jelly beans must be given to Vicki so that they each have the same number of jelly beans? Express your answer in lowest terms.
E 13 Points	Larry starts at the bottom of a long staircase. He climbs exactly $\frac{2}{3}$ of the stairs. Then, he goes back down exactly $\frac{1}{2}$ of the way to the bottom. From that spot, he climbs exactly $\frac{2}{3}$ of the way to the top. Finally, from there, he climbs 6 stairs to reach the top. How many stairs are in the staircase?

Exam for Grade 8

February 12, 2023

A 9 Points	A total of 20 marbles are placed into 5 cups. Each cup has a different number of marbles. No cup has exactly 4 marbles, and no cup is empty. What is the greatest number of marbles that any one cup can have?
B 7 Points	Find the least positive integer A so that the product of 45 and A is a perfect square number.
C 11 Points	Joshua has more than 250 toy soldiers. When he tries to arrange them in rows of 3, there are 2 left over. When he tries to arrange them in rows of 5, there are 2 left over. When he tries to arrange them in rows of 7, there are 2 left over. What is the least number of toy soldiers Joshua may have?
D 9 Points	Starting at the same time on opposite shores of a lake, two boats cross back and forth for 35 minutes without stopping. One boat needs 5 minutes to cross the lake. The other boat needs 7 minutes. What is the number of times during the 35 minutes that the faster boat passes the slower boat going in the same or opposite direction?
E 9 Points	The average of 6 consecutive odd numbers is 50. What is the least of these numbers?