

# Seneca

# OCMT

ONTARIO COLLEGES MATH TEST

## Math Skills Assessment

# Practice Test 2

The background of the entire page is a photograph of students in a computer lab. In the foreground, a student's hands are visible typing on a keyboard. In the background, other students are seated at desks with multiple computer monitors. The image is slightly blurred, creating a sense of a busy, modern educational environment.

1. Write the following as a number: *Ten million, five hundred four thousand, one hundred two*
2. Round to the nearest thousandth: 13.9999
3. Represent 45% as a fraction reduced to the lowest terms.
4. Write as an ordinary number:  $3.5 \times 10^4$
5. Eight chairs can fit around a table. If there are 96 chairs, how many tables are needed?
6. Compute:  $9 \times (3 - 4 \div 2) + 2 \times 3$
7. For the following fraction, (i) express as a mixed number and (ii) convert to its equivalent decimal:  $\frac{36}{8}$
8. Amy earned \$1,420 last week. If Amy's hourly pay is \$35.50, how many hours did she work last week?
9. Arrange the following numbers in order from smallest to largest: 0.002, 0.012, -0.102, 0.102
10. Write the following in decimal notation: *Seven hundred sixty-three thousandths.*
11. Simplify:  $2x(y + 3) - 2x$
12. Compute:  $(-6) \div 2 \times [-1 - (-4)]$
13. Compute:  $12 \div (2^3 \div 4)^{-2} + 1$
14. Laura needs to drink at least 40 glasses of water per week. If she drinks 5 glasses every day, will she be able to reach her goal?
15. Helen types 175 words in two minutes. If her speed remains unchanged, how many words will she type in two-thirds of an hour?
16. Simplify:  $(3x + 2) + (2x - 4)$
17. What is the ratio of two weeks to 98 days? Express your answer reduced to the lowest terms.
18. Amy, Alan, and Andy invested \$4,200, \$2,800, and \$3,500, respectively. What is the investment ratio of Amy: Alan: Andy? Express your answer reduced to the lowest terms.
19. Round the number 139,935 to the nearest hundred.
20. Evaluate:  $\frac{3}{4} + \frac{6}{7} \div \frac{4}{5} - \frac{4}{7}$ . Express the answer as a mixed number in lowest terms.
21. Write the number 5,401 in expanded form.
22. Convert 30.28 L to gallons using the unit conversion  $1 \text{ gal} = 3.785 \text{ L}$ .
23. What is the ratio of 450 grams to  $1\frac{4}{5}$  kg? Express your answer reduced to the lowest terms.
24. Karen spent  $\frac{1}{3}$  of her money on rent,  $\frac{1}{5}$  on food, and  $\frac{1}{6}$  on services. What fraction of her money did she spend on rent, food, and services? Express your answer as a fraction in lowest terms.

25. Determine the value of the missing number, , from the options provided for the following statement to be true.
- $$\frac{25}{3} < \frac{25}{\square} < \frac{52}{4}$$
- a. 1  
b. 5  
c. 2  
d. 7
26. Eric's monthly salary is \$3,800. If Sally's salary is 12% more than Eric's, what is Sally's monthly salary?
27. Angela's weight reduced from 90 kg to 76.5 kg in six months. What is the percent decrease in her weight?
28. Evaluate:  $(7 - 3)^8 \times 4^3 \div (2^3 - 2^2)^9$
29. Arrange the following measurements in order from largest to smallest: 3 km, 5,000 m, 400,000 cm
30. A car travels  $4\frac{2}{3}$  km with  $\frac{2}{3}$  liters of gas. If the gas consumption remains unchanged, how many kilometres can it travel using  $30\frac{1}{4}$  liters of gas? Express your answer as a mixed number in lowest terms.
31. A bottle has a 350 mL capacity. How many bottles are required to hold 2.8 L?
32. Determine the value of the missing digit, from the options provided, for the following statement to be true:  
 $-374 < -3\_4 < -327$
- a. 1  
b. 2  
c. 4  
d. 8
33. A store was selling a jacket for \$60 but Veronica bought it for \$45 online. What is the percent discount offered online?
34. Three flashing lights are turned on at the same time. The red light flashes every 5 seconds, the green light flashes every 8 seconds, and the white light flashes every 10 seconds. How often will all the three lights flash together?
35. A biology class has 18 students. There are two more girls than boys. How many boys are there in the classroom?
36. Lucy paid \$575 for a television after taxes. If the tax rate is 15%, what was the selling price of the television before taxes?

**Answer Key**

1. 10,504,102
2. 14
3.  $\frac{9}{20}$
4. 35,000
5. 12
6. 15
7. (i)  $4\frac{1}{2}$       (ii) 4.5
8. 40 hours
9. -0.102, 0.002, 0.012, 0.102
10. 0.763
11.  $2xy + 4x$
12. -9
13. 49
14. No
15. 3,500 words
16.  $5x - 2$
17. 1 : 7
18. 6 : 4 : 5
19. 139,900
20.  $1\frac{1}{4}$
21.  $5,000 + 400 + 1$
22. 8 gallons
23. 1 : 4
24.  $\frac{7}{10}$
25. c
26. \$4,256
27. 15%
28. 16
29. 5,000 m, 400,000 cm, 3 km
30.  $211\frac{3}{4}$  km
31. 8 bottles
32. c
33. 25%
34. Every 40 seconds
35. 8 boys
36. \$500