

Seneca

OCMT

ONTARIO COLLEGES MATH TEST

Math Skills Assessment

Practice Test 3

The background of the page is a photograph of a computer lab. Several students are seated at desks, working on computers. The focus is on the hands of a student in the foreground typing on a keyboard. The background is slightly blurred, showing other students and computer monitors. A dark grey rectangular box is overlaid on the image, containing the text 'Practice Test 3'.

1. Represent 10% as a fraction reduced to the lowest terms.
2. For the following fraction, (i) express as a mixed number and (ii) convert to its equivalent decimal: $\frac{22}{5}$
3. Simplify: $4x + 6(x - y)$
4. Round to the nearest whole number: 3.499
5. Calculate: $10 + (8 \div 2 + 7) \times 3$
6. Beth has completed five courses that are worth 8 credits each and six courses that are worth 5 credits each. How many credits has Beth earned?
7. Which of the following is a prime factor of 16?
 - a. 2
 - b. 4
 - c. 8
 - d. 1
8. Write the following in decimal notation: *Four and two hundredths*.
9. What is the ratio of 48 minutes to 2.4 hours? Express your answer reduced to the lowest terms.
10. Arrange the following numbers in order from smallest to largest: -1.234, 1.212, 1.202, 1.211
11. If Amy needs to save \$1,550 over the next nine weeks, how much does she need to save every week? Express your answer rounded to the nearest cent.
12. Peter earned \$1,188 last week. If he earns \$36 per hour, how many hours did he work last week?
13. What is the result of subtracting *forty-two thousand, nine hundred ninety-eight* from *one-quarter of a million*? Write the answer in word form.
14. Calculate: $(3 \times 5 - 2 \times 3)^2 - 4^4$
15. Amy's monthly budget is \$2,500. If she spent 13% of her budget on food last month, how much did she spend on food?
16. Determine the value of the missing digit, from the options provided, for the following statement to be true.
 $95,147 > 9_,147 < 97,147$
 - a. 6
 - b. 4
 - c. 5
 - d. 7
17. Calculate: $[-4 \div 2 - (-3)] \times (-7)$
18. Amanda's monthly salary is \$4,500. If she saved \$675 last month, what percent of her salary did she save?
19. Simplify: $2(5x - 3) - (3x - 5)$
20. A recipe calls for $\frac{3}{4}$ cups of water, $\frac{2}{3}$ cups of flour, and $\frac{1}{6}$ cups of sugar. What is the ratio of water: flour: sugar? Express your answer reduced to the lowest terms.
21. Evaluate: $\frac{5}{3} + \sqrt{\frac{25}{9}} - \frac{1}{2} \times \frac{3}{2}$. Express the answer as a mixed number in lowest terms.

22. Amy requires 3 different substances A, B, and C, in a ratio of 5 : 3 : 4. If 30 grams of substance A was administered, calculate the number of grams of substances B and C administered.
23. If $x = -2$, $y = 1$, and $z = 5$, determine the value of $x^2 - 2xy + xz$
24. The value of a car depreciated by 8% from the purchase price of \$48,500 two years ago. What is its current price?
25. Using the unit conversions $1 \text{ lb} = 16 \text{ oz}$ and $1 \text{ oz} = 28.35 \text{ g}$, arrange the following from smallest to largest:
2 lb, 7 oz, 1.701 kg
26. If a rectangle has an area of 63.5 square centimeters and one side length of 5 centimeters, determine the length of the other side in inches, using the unit conversion $1 \text{ in} = 2.54 \text{ cm}$
27. Karen walked $1\frac{2}{5}$ km this morning and $2\frac{1}{3}$ km in the afternoon. If she wants to walk 5 km every day, how many kilometers does she need to walk at night? Express your answer as a mixed number in lowest terms.
28. Determine the value of the missing digit, from the options provided, for the following statement to be true.
 $-245 > -2_9 < -257$
- 3
 - 5
 - 2
 - 4
29. A water tank with a 3 m^3 capacity is $\frac{3}{5}$ full. How many additional litres of water are required to fill the tank?
30. What is the ratio of 1,800 centimeters to $\frac{3}{5}$ metres? Express your answer reduced to the lowest terms.
31. Rose walks $2\frac{2}{3}$ km in three-fifths of an hour. If her speed remains unchanged, how many kilometres can she walk in one and three quarters of an hour? Express your answer as a mixed number in lowest terms.
32. Determine the value of the missing number, from the options provided, for the following statement to be true.
 $\frac{31}{7} < \frac{31}{\square} < \frac{31}{4}$
- 8
 - 2
 - 3
 - 6
33. Aran is paid a flat rate of \$50 plus an additional \$5 for every package he delivers per day. If he earned \$125 yesterday, how many packages did he deliver?
34. Andy sold his apartment for \$497,250, which was 117% of the amount he paid three years ago. What was the original price that he paid three years ago?
35. Using the numbers 1, 2, 3, and 5, what is the smallest even number that can be written?
36. Lena has 54 red balls and 36 blue balls. She wishes to distribute the balls to create identical bags. What is the maximum number of bags that she can create if she wishes to have the same number of red balls and the same number of blue balls in each bag?

Answer Key

1. $\frac{1}{10}$
2. (i) $4\frac{2}{5}$ (ii) 4.4
3. $10x - 6y$
4. 3
5. 43
6. 70 credits
7. a
8. 4.02
9. 1 : 3
10. -1.234, 1.202, 1.211, 1.212
11. \$172.22
12. 33 hours
13. Two hundred seven thousand, two
14. -175
15. \$325
16. b
17. -7
18. 15%
19. $7x - 1$
20. 9 : 8 : 2
21. $2\frac{7}{12}$
22. 18 grams of substance B and 24 grams of substance C
23. -2
24. \$44,620
25. 7 oz, 2 lb, 1.701 kg
26. 5 inches
27. $1\frac{4}{15}$ km
28. b
29. 1,200 litres
30. 30 : 1
31. $7\frac{7}{9}$ km
32. d
33. 15 packages
34. \$425,000
35. 1,352
36. 18 bags