HUMBER

OCMT
ONTARIO COLLEGES MATH TEST

Math Placement Test

Practice Test 1

1. What is the place value of the digit 3 in the number 1,223,405?

2. Calculate: $2 - 3 \times 6 \div 2$

3. For the following fraction, (i) express as a mixed number and (ii) convert to its equivalent decimal: $\dfrac{25}{4}$

4. Arrange the following numbers in order from smallest to largest: 0.23, −2.256, 0.0421, 0.2307

5. Simplify: $3x - (6x + 2y - 1)$

6. Represent 36% as a fraction reduced to its lowest terms.

7. If Sam saves $265 a week, how many weeks will it take him to save $2,120?

8. There are 12 girls and 8 boys in a classroom. What is the ratio of girls to the total number of students in the classroom? Express your answer reduced to the lowest terms.

9. Calculate: $(3^2 \times 3^6 \div 3^3) \div [2^2 - 1]^5$

10. Write the number 2,367,248,901 in word form.

11. Amy earns $22 per hour and she worked 42.5 hours last week. How much did she earn last week? Express the answer rounded to the nearest ten dollars.

12. Helen has an old laser printer that can print 900 pages in 1.5 hours. If the speed of printing remains constant, how long will it take her to print a book of 600 pages? Express your answer in hours.

13. Write the following in decimal notation: *Seven hundred sixty-two thousandths.*

14. Calculate: $\left[-5 - \left(3 - \sqrt{36} \right) \right] \div (-2) + (-3)$

15. Lena read 65 pages of a 325-page book. What percent of the book did she read?

16. At an international school, half of the students are from the USA and Europe, two-fifths are from China and India, and the rest of them are from Africa. What fraction of the students is from Africa? Express your answer as a fraction in lowest terms.

17. Round to the nearest hundredth: 245.5148

18. Andrew spends 40% of his salary on rent every month. If his monthly salary is $4,200, how much does he spend on rent?

19. Simplify: $(2x + 1)(3x - 2)$

20. Determine the value of the missing digit, from the options provided, for the following statement to be true:
    $-145 < -14\_ > -143$
    a. 4
    b. 1
    c. 6
    d. 9

21. Round the number *sixty-nine thousand, six hundred twenty-two* to the nearest thousand. Express the answer as a number in its standard form.

22. What is the ratio of 150 minutes to $1\frac{1}{2}$ hours? Express your answer reduced to the lowest terms.

23. Arrange the following measurements in order from smallest to largest: 36 kg, 35,000 g, 100,000 mg

24. Erin runs $2\frac{1}{2}$ km in one-sixth of an hour. If her speed remains unchanged, what distance will she run in two-thirds of an hour?

25. Evaluate the following and express your answer reduced to the lowest terms. $\left(3\frac{2}{3} - \frac{7}{4}\right)^2 \div 5\frac{3}{4}$

26. Linda completed a Math exam in 2 hours. If she spent $\frac{2}{5}$ of the time to review her answers for accuracy, how many minutes did she spend reviewing?

27. Convert 804.5 km to miles, using the unit conversion: 1 mi = 1.609 km

28. This semester, the tuition fee increased to $5,871. If this represents an increase by 14%, what was the original fee?

29. Solve for x: $\frac{3}{4}x - 2 = -5$

30. What is the ratio of 6 months to $\frac{2}{3}$ years? Express your answer reduced to the lowest terms.

31. There are 14 chapters in a textbook. Each chapter contains 25 questions. If a professor has provided answers to 125 questions, how many more questions from the textbook still require answers?

32. How many 150 mL glasses can be filled from a 2.25 L jar of orange juice?

33. Amy's monthly salary increased from $4,500 to $4,815 this year. Calculate the percent increase in her salary.

34. Determine the value of the missing number, from the options provided, for the following statement to be true:
$1\frac{33}{42} < \frac{\square}{43} < \frac{90}{44}$

    a. 40
    b. 86
    c. 65
    d. 90

35. Four plastic tubes have lengths of 18 cm, 24 cm, 36 cm, and 42 cm. If these tubes are to be cut into smaller pieces of equal length, without wastage, what is the greatest possible length of each piece?

36. Three boys have an average weight of 42.5 kg. When the weight of a fourth boy is included, the average becomes 44 kg. Determine the weight of the fourth boy.

Answer Key

1. Thousands
2. −7
3. (i) $6\frac{1}{4}$ (ii) 6.25
4. −2.256, 0.0421, 0.23, 0.2307
5. $-3x - 2y + 1$
6. $\dfrac{9}{25}$
7. 8 weeks
8. 3 : 5
9. 1
10. Two billion, three hundred sixty-seven million, two hundred forty-eight thousand, nine hundred one
11. $940
12. 1 hour
13. 0.762
14. −2
15. 20%
16. $\dfrac{1}{10}$
17. 245.51
18. $1,680
19. $6x^2 - x - 2$
20. b
21. 70,000
22. 5 : 3
23. 100,000 mg, 35,000 g, 36 kg
24. 10 km
25. $\dfrac{23}{36}$
26. 48 minutes
27. 500 miles
28. $5,150
29. −4
30. 3 : 4
31. 225 more questions
32. 15 glasses
33. 7%
34. b
35. 6 cm
36. 48.5 kg