HEALTH SCIENCES MATH ASSESSMENT SAMPLE

You will have up to 1 hour to complete **35 multiple choice questions**. Basic calculators are allowed (will be provided).

A. Fractions (6 marks)

1. Reduce $\frac{42}{54}$ to lowest terms: _____
2. Find the largest fraction in the following set: $\frac{2}{3}, \frac{3}{4}, \frac{9}{13}, \frac{9}{14}$ _____
3. Add $2\frac{5}{12} + 6\frac{4}{9}$ _____
4. Subtract $4\frac{1}{6} - 2\frac{7}{8}$ _____
5. Multiply 12 X $\frac{3}{4}$ _____
6. Divide $\frac{7}{24} \div 2\frac{5}{8}$ _____

B. Decimals (6 marks)

7. Add 700 + 0.059 + 3.1 _____
8. Subtract 57.9 – 36.22 _____
9. Multiply 5.63 X 0.03 _____
10. Divide 31.52 ÷ 2.3 to the nearest whole number _____
11. Write 0.75 as a fraction in lowest terms _____
12. Write $\frac{5}{8}$ as a decimal _____

C. Percents (4 marks)

13. Express 84% as a fraction in lowest terms _____
14. Express $\frac{18}{20}$ as a percent _____
15. What is 75% of 70? _____
16. A bottle contains 300 millilitres of liquid. If 25% of the liquid is removed, how many millilitres remain? _____

D. Algebra (4 marks) **Questions 17 to 20 – Solve for N**

17. N – 17 = 23 N = _____
18. 2N + 5 = 29 N = _____
19. $\frac{4}{7} = \frac{N}{42}$ N = _____
20. $\frac{4}{5}$N = 16 N = _____

E. Metric System (6 marks)

21. 0.003 grams = _____ milligrams

22. 2 milligrams = _____ micrograms

23. 4.6 micrograms = _____ milligrams

24. 0.075 kilograms = _____ milligrams

25. 9.52 litres = _____ millilitres

26. Add 2.2 kg + 5.75 g + 300 mg (Give your answer in grams) _____

F. Applications (9 marks)

27. If there are 30 grams in one ounce, how many grams are there in 5.2 ounces? _____

28. If 1 tablespoon = 15 millilitres, how many tablespoons are in 112.5 millilitres? _____

29. If a drug dose for an adult is 23.8 mg/kg, and a child's dose is $\frac{1}{4}$ the adult dose, what is the child's dose in mg/kg? _____

30. If 13 grams of a drug are dissolved in 100 millilitres of a solution, how many grams are dissolved in 500 millilitres of the solution? _____

31. If a patient is prescribed 15 mg of a drug, what volume of solution will you measure if the drug is available as a 10 mg/mL solution? _____

32. If a drug comes in a solution of 0.125 g/mL, what volume will you measure for a dose of 0.25 g? _____

33. A prescription specifies 1 gram of a drug to be taken twice a day. If the drug is available as 200 milligram tablets, how many tablets will the patient take per day? _____

34. If a drug is available as a solution containing 30 mg/mL, and you are required to measure a dose of 20 mg, what units will you use to express the amount you measure?
mg? mL? mg/mL? mL/mg?

35. In the relationship $\frac{d}{h} \times f = N$, what is N if d= 100, h=5, and f=3? _____

ANSWER KEY FOR HEALTH SCIENCES MATH

1. $\frac{7}{9}$	8. 21.68	15. 52.5	22. 2000	29. 5.95
2. $\frac{3}{4}$	9. 0.1689	16. 225 ml	23. 0.0046	30. 65 g
3. $8\frac{31}{36}$	10. 14	17. 40	24. 75,000	31. 1.5 mL
4. $1\frac{7}{24}$	11. $\frac{3}{4}$	18. 12	25. 9,520	32. 2 mL
5. 9	12. 0.625	19. 24	26. 2206.05 g	33. 10
6. $\frac{1}{9}$	13. $\frac{21}{25}$	20. 20	27. 156 g	34. mL
7. 703.159	14. 90%	21. 3	28. 7.5	35. 60