

Name: _____

Hour: _____ Date: _____

Chemistry: *The Mathematics of Chemistry*

Complete the following calculations. Include units on your answers.

1. $\frac{(127 \text{ m})}{(23 \text{ s})}$

2. $(5.22 \text{ m}) (4.29 \text{ m})$

3. $34 \text{ cm} + 21 \text{ cm} + 8 \text{ cm}$

4. $(0.45 \text{ mm}) (0.28 \text{ mm}) (0.85 \text{ mm})$

5. $\frac{(10 \text{ kg}) (30 \text{ m})}{(5 \text{ s})}$

6. $\frac{1.3 \text{ moles}}{3.4 \text{ L}}$

7. $\frac{(75 \text{ kg}) (5.25 \text{ m})}{(2.5 \text{ s}) (6.3 \text{ s})}$

8. $(56 \text{ N}) (2.5 \text{ m})$

9. $\frac{(1.27 \text{ J} + 0.22 \text{ J})}{(116 \text{ g}) (4.8^{\circ}\text{C})}$

10. $\frac{(7.54 \text{ N}) (0.246 \text{ m})}{(0.672 \text{ s})}$

11. $\frac{(8.13 \text{ kg})}{(0.452 \text{ cm}) (0.550 \text{ cm})}$

12. $\frac{54.0 \text{ g}}{4.10 \text{ L}}$

13. $\frac{26\,008 \text{ J}}{125 \text{ g}}$

14. $(645 \text{ atoms}) (2.00)$

Simplify the following expressions.

15. $\frac{5(5w - 4w)}{10}$

16. $\frac{1304 \times 7.631 \times 4.000}{(521.2)(0.4998)}$

17. $\frac{6a \times 5b^2}{3a^3}$

18. $(3.28d)(4.83d)(0.250)$

19. $\frac{(2a - 3b)(3b)}{(3c)(c)}$

20. $(4f + 13g)(2w)$

Solve each of the following expressions for x. (x = ??)

21. $2x - 14 = 8$

22. $4x - 2z = 3y + 8$ (if $y = 12$ and $z = -3$)

23. $H = WQx$

24. $x + 12 = 23FG$

25. $\frac{18KRx}{F^2} = E$

26. $T = LxS$

27. $15G - x = U$

28. $Y = \frac{T + 6}{x}$

29. $\frac{B^2H^5x}{E^4R} = \frac{T^3K}{Y}$