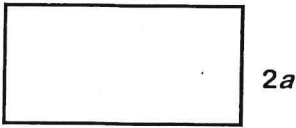


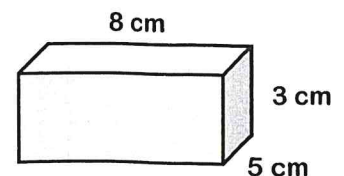
## Lesson #1

1. What is the value of  $3^5$ ?
2. Solve for  $x$ .  $4 > -2 + x > -5$
3.  $-96 + (-49) = ?$
4. Write  $3.26 \times 10^4$  in standard notation.
5. Multiply.  $3x(4x^2 + 3x - 8)$
6. Determine the slope of a line passing through (2, 1) and (6, 8).
7. Simplify.  $\frac{(4x^2)^3}{10x^4}$
8. Find the perimeter of the rectangle. 
9. Multiply.  $(x^{-8}y^{-5})(x^{10}y^{-2})$
10. Find  $\frac{2}{5}$  of 55.
11.  $6\frac{1}{5} + 3\frac{3}{4} = ?$
12. Multiply.  $(8d - 4)(8d + 4)$
13. How many decades are 60 years?
14. Simplify.  $5\sqrt{81b^{30}}$
15. Simplify.  $9\sqrt{2} - 3\sqrt{2}$
16. Solve the system of equations. 
$$\begin{aligned} 2x + 7y &= 16 \\ -2x + 8y &= 14 \end{aligned}$$
17. Simplify.  $4\sqrt{75} + 6\sqrt{27}$
18. Simplify.  $\frac{-3a^2b^3c}{-27abc}$
19. Simplify.  $\frac{(4y)^0}{(7y)^0}$
20. Find the sum. 
$$\begin{array}{r} 9a^3 + 10a^2 - 4a + 4 \\ + 4a^3 \qquad \qquad - 5a - 3 \\ \hline \end{array}$$

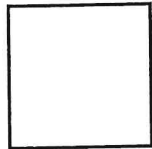


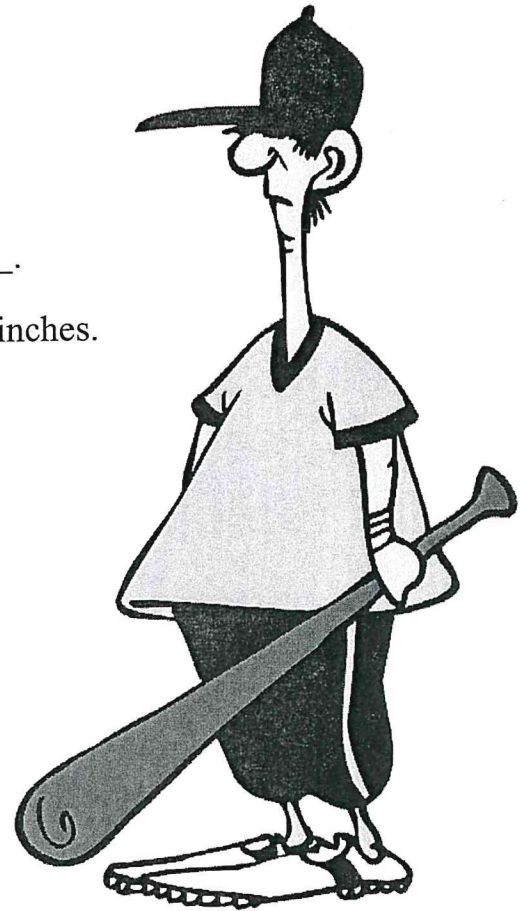
## Lesson #2

1. Simplify.  $(5x^2y^3z^4)^2$
2.  $20 + 2 \cdot 4 + 10 \div 2 - 1 = ?$
3. Simplify.  $6a^{-3}b^2c^{-1}$
4. Solve for  $x$ .  $-6x = 84$
5. Find the area of a triangle if the base is 33 cm and the height is 8 cm.
6. The freezing temperature of water is \_\_\_\_\_ degrees Fahrenheit.
7. Simplify.  $3\sqrt{25xy} + 4\sqrt{36xy} - 2\sqrt{81xy}$
8.  $22\frac{2}{7} - 16\frac{4}{7} = ?$
9.  $\frac{-90}{-2} = ?$
10. Simplify.  $-6\sqrt{49y^{22}}$
11. Factor.  $9k^2 - 25$
12.  $0.63 \times 0.03 = ?$
13. Solve for  $h$ .  $h + 7 \leq 16$
14. Write 0.0000812 in scientific notation.
15. Evaluate  $4a(a + b)$  when  $a = 3$  and  $b = 4$ .
16. A triangle with two congruent sides is a(n) \_\_\_\_\_ triangle.
17. Simplify.  $-3\sqrt{28x^3y^7}$
18. What number is 40% of 80?
19.  $\begin{pmatrix} 7 & -3 & 2 \\ 6 & 4 & -8 \end{pmatrix} - \begin{pmatrix} 5 & -2 & 0 \\ -1 & 3 & -5 \end{pmatrix} = ?$
20. Calculate the surface area of the rectangular prism.



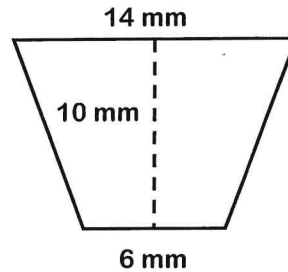
Lesson #3

1. Simplify.  $(m^3n^2)^6$
2. A nine-sided polygon is called a(n) \_\_\_\_\_.
3. Write 6,340,000,000 in scientific notation.
4. Multiply.  $3a(4a + 1)$
5. Simplify.  $(2x^4z)(-4y^3z)$
6. The slope of a vertical line is \_\_\_\_\_.
7. Find the area of a circle whose radius is 7 inches.
8. Solve for  $a$ .  $a + 66 = 91$
9. Simplify.  $\sqrt{18} + \sqrt{3}$
10. Multiply.  $(x^2 - 3)(x^2 + 4)$
11. Simplify.  $\sqrt{49x^4y^6}$
12.  $5 \cdot 7 + 4 \cdot 5 - 12 \div 4 = ?$
13. Write the quadratic formula.
14. Solve for  $x$ .  $\frac{x}{14} = -8$
15.  $\frac{7}{9} \times \frac{27}{28} = ?$
16. Find the area of the square.   $4x - 2$
17.  $-63 + (+15) + (+25) = ?$
18. Find the  $y$ -values in the equation,  $y = -5x + 1$ , when  $x = \{0, -2, 4\}$ .
19. Factor.  $y^2 + 17y + 72$
20. Find the difference. 
$$\begin{array}{r} 16x^3 - 9x^2 + 4x - 3 \\ - 9x^3 \qquad \qquad - 2x + 5 \\ \hline \end{array}$$



## Lesson #4

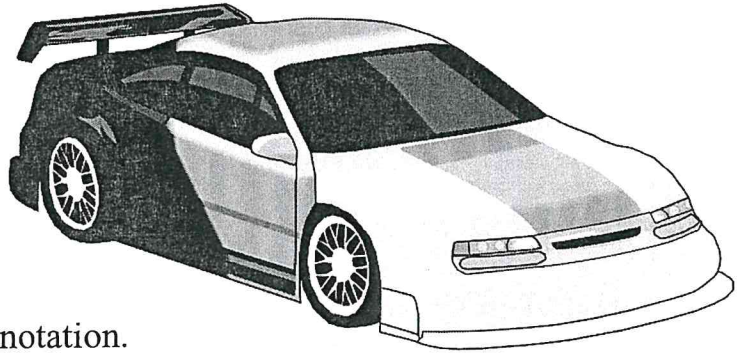
1. Simplify.  $\sqrt{2}(5 - \sqrt{8})$
2. Factor.  $y^2 + 2y - 15$
3. Solve the system of equations. 
$$\begin{aligned} x + 4y &= 14 \\ 6x - 2y &= 6 \end{aligned}$$
4. Multiply.  $3x(3x^2 - 7x + 4)$
5. Simplify.  $4^{-2}a^2b^{-3}c^{-2}$
6. Solve for  $x$ .  $7x - 9 = 3x + 19$
7. Find the area of the trapezoid.
8. Solve for  $a$ .  $2a + 14 = 26$
9. Jeffery's new laptop costs \$950. The sales tax was 8%. What was the total cost of the laptop?
10. Simplify.  $(8a^4b^2c)^2$
11.  $75 + (-38) = ?$
12. Simplify.  $\sqrt{3}(\sqrt{15} + \sqrt{4})$
13.  $600,000 - 421,986 = ?$
14. Simplify.  $6\sqrt{16x^{14}y^{40}}$
15. Write  $0.00065$  in scientific notation.
16. Solve for  $x$ .  $\frac{2}{-3}x = 18$
17. What is the value of  $x$  in  $\frac{5}{8} = \frac{x}{96}$ ?
18. Put these decimals in decreasing order.  
5.43    5.4    5.05    5.043
19. Solve the inequality for  $x$ .  $2x - 8 \geq 10$
20. Find the sum.  $(14x^3 - 7x^2 - 6x + 4) + (9x^3 + 3x - 2)$





## Lesson #5

1. Find the percent of change from 16 inches to 20 inches.
2. Write 32% as a decimal and as a reduced fraction.
3.  $98 - (-47) = ?$
4. Evaluate  $3x - y$  if  $x = 6$  and  $y = 3$ .
5. Write an expression that represents *fifteen more than a number*.
6. What is the value of  $x$ ?  $-5x = 75$
7. Solve for  $x$ .  $3x - 5 \leq 10$
8. Write the quadratic formula.
9. Simplify.  $(3a^2b^3)^3$
10.  $42\frac{2}{5} - 27\frac{4}{5} = ?$
11. Write  $6.5 \times 10^{-5}$  in standard notation.
12. Multiply.  $(3x^2 + 5x - 4)(x + 3)$
13. 80% of what number is 32?
14. Simplify.  $\frac{5x^{-5}}{8y^{-2}}$
15. Find the values for  $y$  in the equation,  $y = 2x - 4$ , when  $x = \{-5, 3, 0\}$ .
16.  $\frac{5}{8} \cdot \frac{12}{25} = ?$
17.  $\begin{pmatrix} 9 & -3 \\ 0 & 6 \end{pmatrix} + \begin{pmatrix} 5 & -8 \\ -3 & -4 \end{pmatrix} = ?$
18. A triangle with no sides congruent is called a(n) \_\_\_\_\_ triangle.
19. Solve using elimination.
 
$$\begin{array}{r} 3x - 2y = 6 \\ 5x + 7y = 41 \end{array}$$
20. Find the difference.
 
$$\begin{array}{r} 11a^3 + 7a^2 - 4a + 5 \\ - 4a^3 \qquad \qquad 2a - 7 \\ \hline \end{array}$$



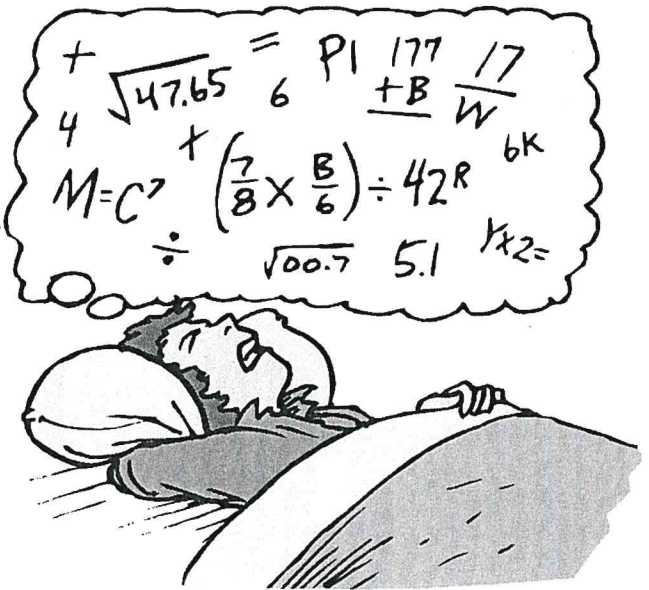
## Lesson #6

1. Factor.  $5x^2 - 10x$
2. Write  $0.0000038$  in scientific notation.
3. Simplify.  $\frac{h^{-9}}{h^{-4}}$
4. 25% of 60 is what number?
5. Find the product.  $6c(c^2 - 4c + 2)$
6. Solve for  $t$ .  $10t + 6 = 8t + 12$
7. Solve the proportion for  $x$ .  $\frac{5}{9} = \frac{x}{135}$
8. Multiply.  $(4y + 5)(4y - 5)$
9.  $-83 + (-37) = ?$
10. Solve for  $a$ .  $2a - 5 \geq a + 3$
11. Simplify.  $\sqrt{81a^{10}}$
12. Factor.  $b^2 - 6b - 27$
13. How many quarts are in 16 gallons?
14. Find the slope of a line through points  $(2, 5)$  and  $(6, 8)$ .
15. Find the percent of change from 8 feet to 10 feet.
16. A bag contains 6 red marbles and 8 white marbles. What is the probability of picking (red, red) with replacement of the marble before the second pick?
17. Find the area of a parallelogram if its base is 19 centimeters and its height is 5 centimeters.
18. Factor.  $a^2 - 16$
19. Simplify.  $5x^2y\sqrt{24x^5y^7}$
20. Find the sum.
 
$$\begin{array}{r} 13x^2 - 8x + 9 \\ + 6x^2 \quad - 7 \\ \hline \end{array}$$



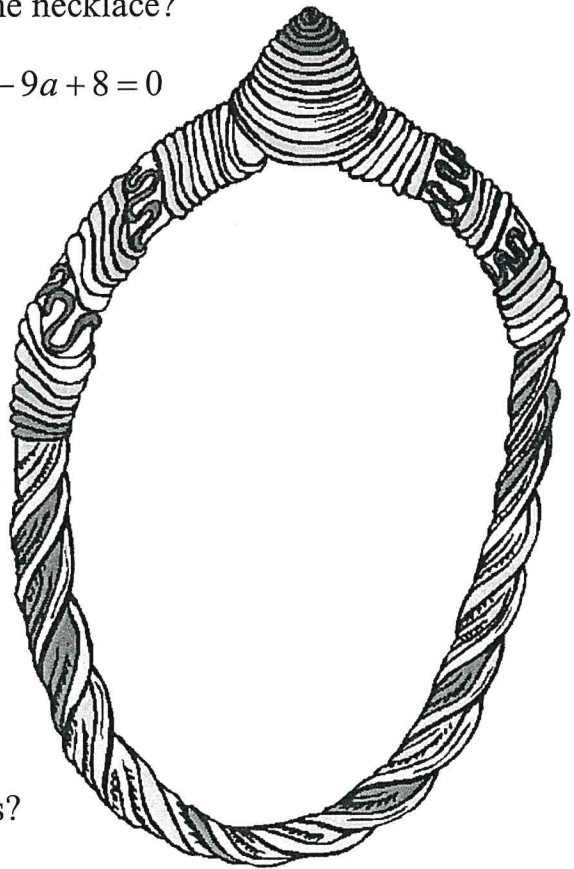
## Lesson #7

1. Evaluate  $\frac{ab}{3} + c$  if  $a = 7$ ,  $b = 12$  and  $c = 4$ .
2. Solve.  $42 \div 7 + 3 \cdot 5 - 2$
3. Multiply.  $(x - 6)(x + 2)$
4. Simplify.  $\sqrt{25a^{10}b^{14}}$
5. Write  $2.9 \times 10^{-3}$  in standard notation.
6. Solve for  $y$ .  $9y - 18 = 3y$
7. Find the GCF of  $12x^3y^2z$  and  $16x^2yz^3$ .
8. Simplify.  $c^4d^3c^{-2}$
9. Solve for  $x$ .  $3x - 5 \leq 19$
10. What is the P(1, 4, 2) on three rolls of a die?
11. Factor.  $a^2 + 15a + 54$
12. Write the slope and  $y$ -intercept for the line with equation  $y = -5x + 2$ .
13. Simplify.  $-|-81|$
14. Simplify.  $2\sqrt{18a^9}$
15.  $70 - (-25) = ?$
16. Simplify.  $5\sqrt{3} + 7\sqrt{3}$
17. Use the quadratic formula to solve.  $a^2 - 9a + 14 = 0$ .
18. Solve for  $c$ .  $c + 56 = -92$
19.  $-19 + (-13) + 17 = ?$
20. Simplify.  $\frac{\sqrt{35}}{\sqrt{5}}$



## Lesson #8

1. Simplify.  $3\sqrt{4} \cdot 5\sqrt{5}$
2. 25% of 60 is what number?
3. Factor.  $k^2 - 64$
4. Write the formula for finding the volume of a cylinder.
5.  $(-7)(2)(-3) = ?$
6. Lian bought a necklace for \$750. The sales tax was 8%. How much money did Lian spend on the necklace?
7. Solve using the quadratic formula.  $a^2 - 9a + 8 = 0$
8. Multiply.  $(4x + 2)(2x + 3)$
9. Solve for  $x$ .  $\frac{4}{9} = \frac{x}{108}$
10.  $\frac{4}{7} \cdot \frac{14}{16} = ?$
11. Solve for  $a$ .  $5(a + 2) = 40$
12. Write  $7.16 \times 10^4$  in standard notation.
13. Simplify.  $10x^{-3}y^2z^{-5}$
14. Which is greater,  $\frac{6}{25}$  or 30%?
15. How many centimeters are in 13 meters?
16. Simplify.  $7\sqrt{16a^{20}}$
17. Write the slope of a line that passes through points (1, 3) and (6, 8).
18. Factor.  $3x^3 + 9x^2 - 12x$
19. Put these integers in decreasing order. -88, -11, 0, -4, -31
20. Find the difference. 
$$\begin{array}{r} 9x^2 - 6 \\ - 4x^2 + 1 \\ \hline \end{array}$$





## Lesson #9

1. Solve for  $y$ .  $4y + 2 = 5y + 4$
2. Write  $827,000$  in scientific notation.
3. Solve for  $x$ .  $\frac{x}{5} + 8 = 11$
4. Factor out the GCF.  $8a^3b + 16a^4b^3 - 4ab^2$
5. Write  $0.36$  as a percent and as a reduced fraction.
6. Round  $23.359$  to the nearest tenth.
7. Multiply.  $(4x^2 + 2x + 3)(3x + 4)$
8. Write the slope-intercept form of a linear equation.
9. Simplify.  $6n^4 \cdot 3n^5$
10. Factor.  $m^2 - 6m - 40$
11. Solve.  $30 + 6(3 + 2 \cdot 4 + 1)$
12.  $16\frac{2}{7} - 9\frac{6}{7} = ?$
13. Evaluate  $4xy + xy$ , if  $x = 3$  and  $y = 2$ .
14.  $76 + (-43) = ?$
15.  $\begin{pmatrix} 8 & 0 & -2 \\ 5 & 6 & 4 \end{pmatrix} + \begin{pmatrix} 3 & -5 & -7 \\ 8 & -1 & 1 \end{pmatrix} = ?$
16. Simplify.  $\frac{c^{-7}d^3}{c^3d}$
17. Graph the solution for  $2h + 6 \leq 18$  on a number line.
18. What is the percent of change from 21 yards to 35 yards?  
Round your answer to the nearest percent.
19. Calculate the circumference of a circle if its diameter is 12 feet.
20. Multiply.  $3a(4a^2 - 3a + 5)$



Lesson #10

1. Multiply.  $(x + 7)(x - 4)$
2. Solve using the system using any method. 
$$\begin{matrix} x - 3y = -3 \\ x + 3y = 9 \end{matrix}$$
3. What is 60% of 70?
4. Find the perimeter of the rectangle. 
$$\begin{matrix} \text{ } & 5x - 1 & \\ \text{ } & \boxed{\phantom{000}} & \\ \text{ } & 3x & \end{matrix}$$
5.  $66 + (-18) = ?$
6. Solve for  $c$ .  $c - 19 = -40$
7.  $6.43 \times 0.04 = ?$
8. Write 4,000,000,000 in scientific notation.
9. Solve for  $x$ .  $-5x = 140$
10. Simplify.  $3\sqrt{2} \cdot 7\sqrt{2}$
11. Solve for  $x$ .  $\frac{5}{6}x - \frac{4}{6}x + 5 = 14$
12. Simplify.  $\sqrt{100a^{12}b^{16}}$
13. Use the quadratic formula to solve.  $a^2 + 2a - 3 = 0$
14. Simplify.  $3\sqrt{2x^5} \cdot 4\sqrt{8x}$
15. The slope of a horizontal line is \_\_\_\_\_.
16. Solve for  $x$ .  $\frac{5}{7} = \frac{x}{105}$
17. Solve for  $x$ .  $3x - 7 = 14$
18.  $29 - 18\frac{5}{8} = ?$
19. Solve for  $x$ .  $\frac{-3}{5}x = 15$
20. What are the coordinates of points B and C?

