

Homework: Variables and Expressions

I. Indicate with math symbols what operations are being described by the given word(s). Use +, -, x, or ÷ symbols.

1. sum +
2. product x
3. decreased by -
4. quotient ÷
5. increased by +
6. difference -
7. more than +
8. less than -
9. twice something 2x

II. Write a verbal expression for the algebraic expression. (Answers may vary.)

10. ab the product of a and b
11. $x + 7$ the sum of a number and 7
12. $2x$ twice a number
4. m^3 the cub of a number
14. $x - 6$ six less than a number
6. $8y^2$ eight times the square of a number
16. $\frac{x}{y}$ the quotient of x and y
8. $\frac{1}{2}(x + y)$ one-half the sum of x and y
18. $3x - 4$ four less than three times a number
10. $5(a - b)$ five times the difference of a and b

III. Write an algebraic expression to the given verbal expression.

20. eight less than a number
 $x - 8$
21. a number increased by seven
 $x + 7$
22. the quotient of m and n
 $m \div n$
23. a number squared
 x^2
24. nine times a number
 $9x$
25. a number decreased by three
 $x - 3$
26. seven more than the cube of a number
 $x^3 + 7$
27. one-half the product of x and y
 $\frac{1}{2}xy$
28. the difference of twice a and b
 $2a - b$
29. twice the difference of a and b
 $2(a - b)$
30. two less than five times a number
 $5x - 2$
31. twice a number increased by the cube of the number
 $2x + x^3$
32. the sum of 3 times a and b
 $3a + b$
33. three times the sum of a and b
 $3(a + b)$
34. the cube of a plus b
 $a^3 + b$
35. the cube of the sum of a and b
 $(a + b)^3$