

Write an algebraic expression for each word phrase.

Variables and Expressions

1. 10 less than x
2. 5 more than d
3. 7 minus f
4. the sum of 11 and k
5. x multiplied by 6
6. a number t divided by 3
7. one fourth of a number n
8. the product of 2.5 and a number t
9. the quotient of 15 and y
10. a number q tripled
11. 3 plus the product of 2 and h
12. 3 less than the quotient of 20 and x

Write a word phrase for each algebraic expression.

13. $n + 6$
14. $5 - c$
15. $11.5 + y$
16. $\frac{x}{4} - 17$
17. $3x + 10$
18. $10x + 7z$

Write a rule in words and as an algebraic expression to model the relationship in each table.

19. The local video store charges a monthly membership fee of \$5 and \$2.25 per video

| Videos (v) | Cost (c) |
|----------------|--------------|
| 1 | \$7.25 |
| 2 | \$9.50 |
| 3 | \$11.75 |

- (1) $x - 10$, (2) $d + 5$, (3) $7 - f$, (4) $11 + k$, (5) $6x$, (6) $\frac{t}{3}$, (7) $\frac{1}{4}n$, (8) $2.5t$, (9) $\frac{15}{y}$, (10) $3q$, (11) $3 + 2h$, (12) $\frac{20}{x} - 3$, (13) 6 more than a number n , (14) 5 minus c , (15) y more than 11.5, (16) 17 less than the quotient of x and 4, (17) 10 more than the product of 3 and x , (18) 10 times a number x plus 7 times a number z , (19) $5 + 2.25v$

20. Dorothy gets paid to walk her neighbor's dog. For every week that she walks the dog, she earns \$10.

| Weeks (w) | Pay (p) |
|---------------|-------------|
| 4 | \$40.00 |
| 5 | \$50.00 |
| 6 | \$60.00 |

Write an algebraic expression for each word phrase.

21. 8 minus the quotient of 15 and y
22. a number q tripled plus z doubled
23. the product of 8 and z plus the product of 6.5 and y
24. the quotient of 5 plus d and 12 minus w
25. **Error Analysis** A student writes $5y \cdot 3$ to model the relationship *the sum of 5y and 3*. Explain the error.
26. **Error Analysis** A student writes *the difference between 15 and the product of 5 and y* to describe the expression $5y - 15$. Explain the error.
27. Jake is trying to mail a package to his grandmother. He already has s stamps on the package. The postal worker tells him that he's going to have to double the number of stamps on the package and then add 3 more. Write an algebraic expression that represents the number of stamps that Jake will have to put on the package.

(20) $10w$, (21) $8 - \frac{15}{y}$, (22) $3q+2z$, (23) $8z+6.5y$, (24) $\frac{5+d}{12-w}$, (25) The word *sum* indicates addition, but the student has multiplied, (26) The student had subtracted backwards. The expressions should be in the order given.