

Write each phrase as an algebraic expression.

1. 12 more than a number
2. The quotient of a number and 9
3. 4 times a number cubed decreased by 7
4. 15 less than a number squared
5. 3 more than 5 times the number of dogs
6. The product of 5 and y added to 3
7. 6 multiplied by the quantity of 7 plus a number

Write a verbal expression for each algebraic expression.

8. $23f$
9. 7^3
10. $5x + 8$
11. $6 - 4y$
12. $\frac{3x}{7}$
13. $4d^3 - 10$
14. $4(2x - 7)$

Translate each sentence into an equation.

15. Fifty-three plus four times c is as much as 21.
16. The sum of five times h and twice g is equal to 23.
17. One fourth the sum of r and ten is identical to r minus 4.
18. Three plus the sum of the squares of w and x is 32
19. The area A of a circle is pi times the radius r squared.

Translate each equation into a verbal sentence.

20. $g + 10 = 3g$

21. $2p + 4q = 20$

22. $4(a + b) = 9a$

23. $8 - 6x = 4 + 2x$

24. $s^2 - n^2 = 2b$

Match each equation to its corresponding statement.

___ 25. $-4n = 5$

___ 26. $\frac{4}{5}n = 5$

___ 27. $4n = 5$

___ 28. $\frac{2}{5}n = 7$

___ 29. $3n = 5$

___ 30. $-4n = -5$

a. Three times a number is equal to five.

b. Two fifths of a number is the same as seven.

c. Four times a number is identical to five.

d. Negative four times a number is five.

e. Negative four times a number is the opposite of five.

f. Four fifths of a number is equivalent to five.

Review.

Determine all of the number sets to which each number belongs.

I. Natural numbers

II. Whole numbers

III. Integers

IV. Rational numbers

V. Real numbers

VI. Irrational numbers

31. $\sqrt{7}$

32. -3

33. $.87$