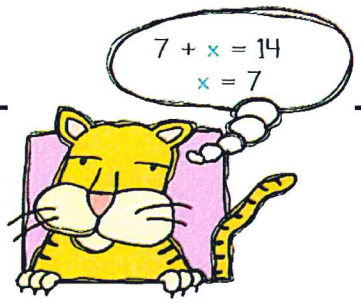
Name: Loz

# Algebraic Expressions




**Tell whether each algebraic equation is correct.**
**Write true or not true on the line next to each.**

1. $a - 6 = 4 , a = 10$ — True
2. $\frac{c}{12} = 2 , c = 6$ — Not true
3. $\frac{d}{6} = 3 , d = 18$ — True
4. $8z = 48 , z = 7$ — Not true
5. $x + x + 7 = 16 , x = 4$ — Not true
6. $\frac{30}{5} = h , h = 6$ — True
7. $\frac{8}{i} = 1 , i = 8$ — True
8. $13 - z = 8 , z = 4$ — Not true

**If the algebraic expression shown is true, write true on the line. If the algebraic expression is not true, cross out the value for the variable and write a new value on the line to make it true.**

**example:** $a - 1 = 6 , a = 8$ — Not true

Since this is not true, cross out the 8 and write a = 7 on the line.

9. $9 - w = 1 , w = 9$ (w = 8) — Not true
10. $\frac{p}{2} = 5 , p = 10$ — True
11. $\frac{18}{k} = 2 , k = 9$ — True
12. $12 + j = 21 , j = 6$ (j = 9) — Not true
13. $7a = 28 , a = 3$ (a = 4) — Not true
14. $\frac{24}{y} = 4 , y = 8$ (y = 6) — Not true
15. $\frac{36}{6} = b , b = 3$ (b = 6) — Not true
16. $17 - v = 5 , v = 12$ — True

17. Is this equation in the box to the right always false, no matter what value you give the variable? Explain your answer.

**0b = 4**

Yes because if you times anything by 0 it will only be zero.

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# Writing Basic Algebraic Expressions

| operation | example written numerically | example with a variable |
|---|---|---|
| addition (sum) | 3 + 2 | 6 + x |
| subtraction (difference) | 18 - 6 | 14 - *a* |
| multiplication (product) | 4 x 5 | 9c |
| division (quotient) | 16 ÷ 4 | $\frac{18}{z}$ |


**Rewrite each question as an algebraic expression.**

1. What is the sum of *a* and 8? a + 8 8 + a
2. What is the product of *y* and 10? 10y
3. What do you get when you subtract 9 from *b*? b - 9
4. What is *c* divided by 22? c/22
5. What is 12 decreased by *p*? 12 - p

**Rewrite each phrase as an algebraic expression.**

6. *c* multiplied by 5 c5 5c
7. 10 larger than *y* y + 10 or 10 + 9
8. 9 less than *e* c - 9
9. triple *r* 3r
10. *p* divided by 4 p/4
11. quadruple *f* f4 or 4f

**Write your answer to the word problems in the form of an algebraic expression.**

12. There are x students trying out for a solo in a chorus concert. Only 6 will be chosen. How many students will not be chosen? x - 6
13. There are *y* students who volunteered to pull weeds in the school garden. The principal said she wishes she had three times as many volunteers. How many volunteers would the principal like to have? y3 or 3y