

EQUATIONS WORKSHEET

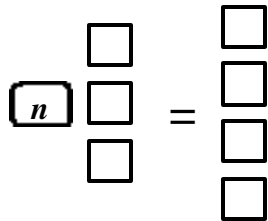
Equations

1) Describe the difference between an equation and an expression. Name at least 2 things.
An equation has an equal sign while an expression does not. An equation is solved while an expression is evaluated.

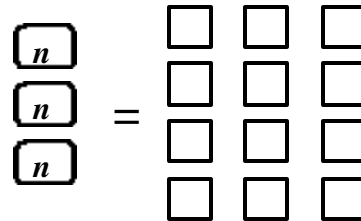
2) Why must an equation balance? How do you make sure it balances?
An equation must balance to maintain its equality. You make sure an equation balances by performing the same operation to BOTH sides of the equation.

3) Write equations for the following, with n , 1, and -1:

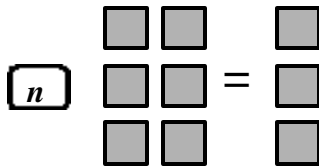
a) $n + 3 = 4$



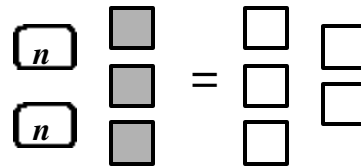
b) $3n = 12$



c) $n - 6 = -3$



e) $2n - 3 = 5$



4) Write equations from the following:

a) Seven more than a number, n , is 21.

a) $n + 7 = 21$

b) One-third of a number is ten.

b) $\frac{n}{3} = 10$

c) Twice the distance is 14 meters.

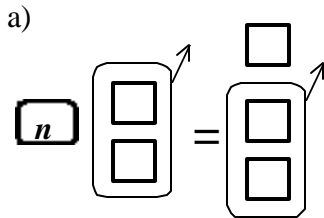
c) $2d = 14$

d) Cost equals the price minus the discount.

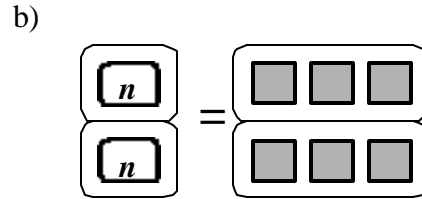
d) $C = p - d$

Solving Equations

5) Describe the situation you think is being represented in each diagram.



Subtracting 2 from both sides of the equation.



Dividing both sides by 2.

6) Solve for n in question 3.

a) $n = 1$

b) $n = 4$

c) $n = 3$

d) $n = 4$

7) Why should you always check your answer when solving an equation?

To be sure you did not make any mistakes. To prove you solved correctly – you have the right answer.

8) In the two-step equation, $2n + 3 = 9$, which inverse operation should you perform first?

Why? Is this always true?

Subtract 3 first. It makes it easier to solve. In this type of equation it is generally easier to solve by doing inverse operation of the addition or subtraction first.

Formulas

9) If the area of a rectangle is 20 square meters and the length of the shorter side is 4 meters, what is the length of the longer side?

5 meters

10) If the perimeter of a rectangle is 20 meters and the shorter side is 4 meters, what is the length of the longer side?

6 meters

11) Why can you treat formulas like equations? Give an example.

A formula is an equation that expresses a relationship between two or more quantities. Solving the area like in problem 9, $A = lw$ or $20 = 4w$, solve for w .