

# Equations, Formulas & Proportions Worksheet

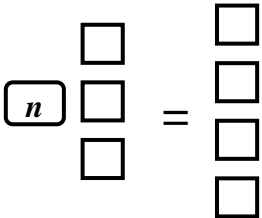
## Equations

1) Describe the difference between an equation and an expression. Name at least 2 things.

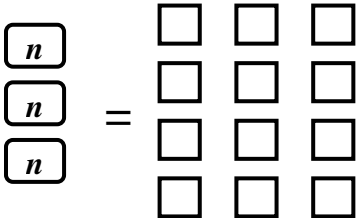
2) Why must an equation balance? How do you make sure it balances?

3) Write equations for the following, with  $\boxed{n} = n$ ,  $\square = 1$ , and  $\blacksquare = -1$ :

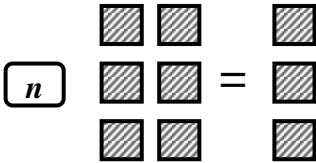
a) \_\_\_\_\_



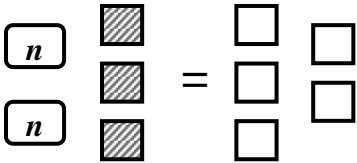
b) \_\_\_\_\_



c) \_\_\_\_\_



d) \_\_\_\_\_



4) Write equations from the following:

- a) Seven more than a number,  $n$ , is 21. a) \_\_\_\_\_
- b) One-third of a number is ten. b) \_\_\_\_\_
- c) Twice the distance is 14 meters. c) \_\_\_\_\_
- d) Cost equals the price minus the discount. d) \_\_\_\_\_

**Formulas**

5) 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?

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

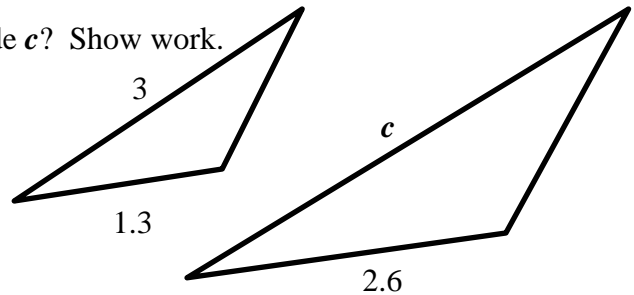
7) Why can you treat formulas like equations? Give an example.

**Proportions**

8) Solve proportion,  $\frac{2}{x} = \frac{7}{14}$ . Show each step of the process you use.

9) A sports car can drive 1,300 kilometers in one day. How many days for the sports car to drive 4,290 kilometers? Set up as a proportion equation and solve.

10) To the right are similar triangles. What is side  $c$ ? Show work.



11) For the similar squares below, find  $x$ .

