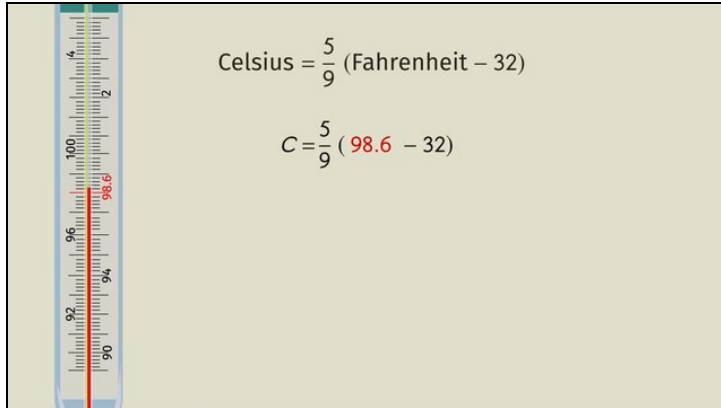




Printable Worksheets from [sofatutor.com](https://www.sofatutor.com)

Temperature Conversion



- 1 Given the value of one variable, solve the equation.
- 2 Rewrite the Fahrenheit equation and set it equal to Celsius.
- 3 Determine the corresponding unit conversions.
- 4 Estimate the conversion between Fahrenheit and Celsius.
- 5 Rewrite the equation.
- 6 Match the equivalent two-variable equations.
- + with lots of tips, answer keys, and detailed answer explanations for all of the problems.



The complete package, including all problems, hints, answers, and detailed answer explanations is available for all [sofatutor.com](https://www.sofatutor.com) subscribers.



Given the value of one variable, solve the equation.

Sort the equations from lowest to highest values of a .

A
 $a = \frac{5}{4}(b - 7)$ where $b = 0$

B
 $a = 12b + 40$ where $b = 6$

C
 $a + 7b = 18$ where $b = -9$

D
 $2a = 6(b - 19)$ where $b = 5$

E
 $\frac{3}{8}b - 23 = a$ where $b = 11$

CORRECT ORDER



Hints for solving these problems

1
of 6

Given the value of one variable, solve the equation.

Hint #1

Plug in the given value for b , then follow order of operations to simplify that side.

Hint #2

Then use the inverse operations to isolate a variable. For example, the inverse of addition is subtraction, and the inverse of multiplication is division.

Hint #3

To solve for a , the variable has to be completely isolated with a coefficient of positive 1.



Answers and detailed answer explanations for these problems

1
of 6

Given the value of one variable, solve the equation.

Answer key: D, E, A, C, B

- First, plug in the given value for b into the given equation.
- Next, follow order of operations: parentheses, multiplication/division, and addition/subtraction. Keep in mind that when you are multiplying/dividing or adding/subtracting, you should work left to right.
- Simplify until the equation is solved for a .

In order from lowest value to greatest value:

Problem 1

- $2a = 6(b - 19)$ where $b = 5$
- $2a = 6(5 - 19)$
- $2a = 6(-14)$
- $2a = -84$
- Since the coefficient of a is not yet one, we need to divide both sides by 2 leaving us with:
- $a = -42$

Problem 2

- $\frac{3}{8}b - 23 = a$ where $b = 11$
- $a = \frac{3}{8}(11) - 23$
- $a = \frac{33}{8} - 23$
- $a = \frac{33}{8} - \frac{184}{8}$
- $a = -\frac{151}{8}$

Problem 3

- $a = \frac{5}{4}(b - 7)$ where $b = 0$
- $a = \frac{5}{4}(0 - 7)$
- $a = \frac{5}{4}(-7)$
- $a = -\frac{35}{4}$

Problem 4

- $a = 12b - 40$ where $b = 6$
- $a = 12(6) - 40$
- $a = 72 - 40$
- $a = 32$

Problem 5

- $a + 7b = 18$ where $b = -9$
- $a + 7(-9) = 18$
- $a + (-63) = 18$



Worksheet: Temperature Conversion

Mathematics / Middle School / Linear Equations / Systems of Linear Equations and Their Solutions / Temperature Conversion

- $a = 81$