

Lesson 2-2
Using Number Sense to Solve Equations

Equation equation	A mathematical sentence with an equal sign.	$5+n=15$ $a+b=c$ $3m=21$ $1+2=3$
Open Sentence	An equation with one or more variables.	$6+x=10$ $a+b=20$
Solution of an Equation	A value for a variable that makes the equation true. $x+2=5$	$x=3$

Find the solution of $34m = 714$

- ~~a) 8~~
- ~~b) 11~~
- c) 21**

In this case, since it is multiple choice, I can substitute each possible answer to find the one that makes the equation TRUE.

Let's Try!

$34m = 714$
 $34(8) = 714 ?$

$$\begin{array}{r} 34 \\ \times 8 \\ \hline 272 \end{array} \neq 714$$

$34(11) = 714$

$$\begin{array}{r} 34 \\ \times 11 \\ \hline 34 \\ 340 \\ \hline 374 \end{array} \neq 714$$

$34(21) = 714$
 $714 = 714$ ✓

We can also solve equations using mental math.

$4y = 20$

$y = 5$

$x + 7 = 15$

$x = 8$

$15/n = 3$

$n = 5$

You Try!

Use mental math to solve $7x = -63$.

- A. 9
- B. -9
- C. 56
- D. -8

Use mental math to solve $n + 6 = -10$.

- ~~A.~~ 4
 - ~~B.~~ -4
 - C. -16
 - D. 16
- $-4 + 6 = 2$

Use mental math to solve $\frac{h}{4} = 8$.

- A. 32
 - B. 2
 - C. 12
 - D. 4
- $\frac{32}{4} = 8 \checkmark$

Finally, we can estimate when solving an equation with a variable. Let's Try!

A vet assistant holds a puppy and steps on a scale. The scale reads 134.5 lb. The assistant weighs 125.3 lb alone. Write an equation and use it to estimate the weight of the puppy.