

Algebra 1

Chapter 1

Section 1-8

An animal shelter has a fundraising goal of \$7500. The diagram shows the results for the first three weeks. The first amount is negative due to upfront costs. When will the shelter reach its goal? Make an estimate.



Adds \$1000 a week

9 weeks

$$1000w - 1500 = m$$

Weeks	\$
1	-500
2	500
3	1500
4	2500
5	3500
6	4500
7	5500
8	6500
9	7500

$1000w - 1500 = 7500$
 $w = 1 \rightarrow -500$

Henry sells his homegrown tomatoes at a local farmers market. It costs him \$11.50 to rent a space and \$3 to rent a tent to cover his space. He sells his tomatoes for \$2.15 per pound. Henry made \$50 in profit. How many pounds of tomatoes did he sell?

Expenses
11.50, 3

Income → Total \$50

t → tomatoes lbs.

$2.15t$

$$2.15t - 11.50 - 3 = 50$$

$$t =$$

Using a Table

$7x + 11 = 102$, solve for x

x	$7x + 11$
10	$7(10) + 11 = 81$
12	$7(12) + 11 = 95$
13	$7(13) + 11 = 102$

Equation Classification

True	False	Open
<p>Always same on both sides</p> $4 + (-9) + x = x - 5$	$9 + 3 - 4 = 7$ <p>Not same on both sides</p>	$2x = 8$ <p>Could be true or false. *Depends on x.</p>

Identifying True, False, or Open

$$3 + x = 6x$$

Open

Identifying True, False, or Open

$$10 = 4 - 6(1 - 2)$$

$$4 - 6(-1)$$

$$10 = 4 + 6$$

True

Using Mental Math to Solve

$$8 + x = 10$$

$$x = 2$$

$$14 - x = 7$$

$$x = 7$$

$$3x = 30$$

$$x = 10$$

$$4 = \frac{x}{3}$$

$$12 = x$$

Identifying Solutions: What makes an equation true?

Is $x = 3$ a solution to the equation:

$$4x + 17 = 29$$

$$4(3) + 17 = 29$$

$$12 + 17 = 29$$

Yes

$$19x - 10 = 32$$

$$19(3) - 10 = 32$$

$$57 - 10 \neq 32$$

No