Simulation Trainer Workspace

Notes from Teacher Instruction

BUSINESS 1:

$387,500 + $1.25x = $40x

$-$1.25x $-$1.25x

$387,500 = $38.75x

$38.75 $38.75

10,000 = x

IF THE COMPANY SELLS 10,000 ITEMS, THEY WILL BREAK EVEN.

BUSINESS 2:

$100,000 + $40x = $40x

$-$40x $-$40x

$100,000 = $0 ← FALSE

THIS COMPANY WILL NEVER BREAK EVEN B/C THEY CHARGE THEIR CUSTOMERS EXACTLY WHAT IT COSTS THEM TO PRODUCE EACH ITEM.

BUSINESS 3:

$27x + $1850 + $2500 = $30x - $3x + $4350

$27x + $4350 = $27x + $4350

$-$27x $-$27x

$4350 = $4350 ← TRUE

THIS COMPANY WILL ALWAYS BREAK EVEN B/C THEIR EXPENSES WILL ALWAYS MATCH THEIR EARNED INCOME.

Solution

value that makes an equation, a system of equations, or an inequality true

$$5 - 3x = -7$$
$$-5 \qquad -5$$
$$-3x = -12$$
$$\frac{-3x}{-3} = \frac{-12}{-3}$$
$$x = 4$$

One solution

Check

$$5 - 3x = -7$$
$$5 - 3(4) = -7$$
$$5 - 12 = -7$$
$$-7 = -7$$

✓

8.EE.C.7a

Equation is true only when $x = 4$.

MidSchoolMath

4

No Solution

when there are no values that make an equation, a system of equations or an inequality true

$$-2x + 1 = 3 - 2x$$
$$-1 \quad -1$$
$$-2x = 2 - 2x$$
$$+2x \qquad +2x$$
$$0 \neq 2$$

No solution

Equation is never true, no matter the value of x.

8.EE.C.7a

MidSchoolMath

5