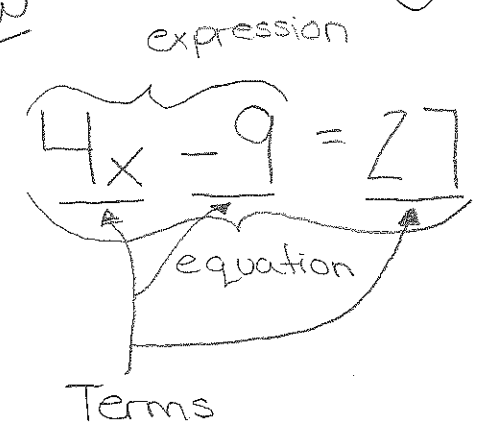


M8 6.2 Solving Equations Using Algebra

Name _____

Blk _____

Review



Terms: separated by +/=/ sign

same equation

$$\begin{cases} -6 + 4x = 54 \\ 4x - 6 = 54 \\ 54 = -6 + 4x \end{cases}$$

Example: $5x + 6 = 31$

- 1) circle terms
- 2) +/- terms, do opposite
- 3) x/= terms, do opposite
- 4) Check !!

$$\begin{aligned} 5x + 6 &= 31 \\ -6 & \quad -6 \\ \hline 5x &= 25 \\ \div 5 & \quad \div 5 \\ \hline x &= 5 \end{aligned}$$

$x = 5$

$$5(5) + 6 = 31$$

$$25 + 6 = 31$$

$$\boxed{31 = 31} \quad \checkmark$$

New

* If you move a term to the other side of an equals sign it's pos/neg (+/-) value switches *

$$\begin{aligned} 4x - 6 &= 54 \\ &= 4x = 54 + 6 \\ 13 - 5x &= 3 \\ &= -5x = 3 - 13 \end{aligned}$$

Ex: $3b + 5 = 14$

- 1) circle terms
- 2) move terms away from variable
- 3) solve w/ Algebra
- 4) check \checkmark

$$\begin{aligned} 3b + 5 &= 14 \\ -5 & \quad -5 \\ \hline 3b &= 14 - 5 = 9 \\ \div 3 & \quad \div 3 \\ \hline b &= \frac{9}{3} \\ &= 3 \end{aligned}$$

$b = 3$

$$3(3) + 5 = 14$$

$$9 + 5 = 14$$

$$\boxed{14 = 14} \quad \checkmark$$

Ex 2: $16t - 69 = -13$ or $-69 = -16t - 13$

1) circle terms $16t = -13 + 69$ $-69 + 13 = -16t$

2) isolate variable term $\frac{16t}{16} = \frac{56}{16}$ $-56 = -16t$

$t = \frac{56}{16}$ or 3.5 or $\frac{7}{2}$ $t = 3.5$

3) solve

4) check $16\left(\frac{56}{16}\right) - 69 = -13$
 $56 - 69 = -13$
 $-13 = -13$ ✓

HW: $\frac{A}{5,6}$

$\frac{B}{8,9,11}$

$\frac{C}{12,14}$

Solve and check answer by replacing the variable in the original question w/ your answer - check for true statement $6 = 6$ ✓

Practice → Solve

1) $-4x + 6 = -34$

$-4x = -34 - 6$ $-4(10) + 6 = -34$
 $-4x = -40$ $-40 + 6 = -34$
 $\frac{-4x}{-4} = \frac{-40}{-4}$ $\frac{-34}{-4} = \frac{-34}{-4}$
 $x = 10$ ✓ $-34 = -34$ ✓

1) circle terms
 2) isolate variable
 3) solve
 4) check

2) $-49 = -14x + 91$

$-49 - 91 = -14x$
 $\frac{-140}{-14} = \frac{-14x}{-14}$
 $10 = x$ ✓

$-49 = -14(10) + 91$
 $-49 = -140 + 91$
 $-49 = -49$ ✓

3) $275 - 6x = 215$

$-6x = 215 - 275$
 $\frac{-6x}{-6} = \frac{-60}{-6}$
 $x = 10$ ✓

$275 - 6(10) = 215$
 $275 - 60 = 215$
 $215 = 215$ ✓