What exponent goes in the box to make the following equation true?

$$\frac{\chi \Box \chi^6}{\chi^2} = \chi^{12}$$



Learning Goals

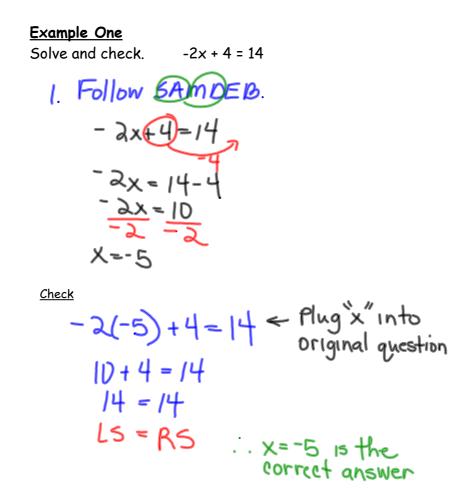
- 1. To understand that adding and subtracting are inverses or opposites of each other.
- 2. To understand that multiplying and dividing are inverses or opposites of each other.
- 3. To understand that to isolate for a variable you use SAMDEB.
- 4. To check your work by showing that left side = right side.

4.2 - Using Inverse Operations - "SAMDEB"

Inverse Operations - operations that undo or are opposite.

For example, <u>division</u> and <u>multiplication</u> are opposite or inverses. <u>Adding</u> and <u>subtracting</u> are also <u>inverses</u>.

Today's lesson is about isolating for a variable using inverse operations. Always use SAMDEB (which is working backwards through BEDMAS).



Example Two *With a fraction*

Solve and check. $\sqrt[w]{2}_{13=7}$

1. Follow GAMDER.

$$\frac{\omega}{3} = \frac{13}{3} = \frac{7}{5}$$
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Check

$$20-13=7$$

 $7=7$... $w=60$ is
the correct
answer.

Example Three *With a fraction*

Solve and check. $\frac{(y-5)}{2} = 6$

1. Follow SAMDEB.

$$(y-5)^{2} - 6^{2}$$

 $(y-5)^{2} - 18^{2}$
 $(y-5)^{2} - 18^{2}$

<u>Check</u>

$$(23-5) = 6$$
 $18 = 6$
 $6 = 6$
Ls = Rs

The correct

Example Four

A photographer charges a sitting fee of \$100. The first 4 prints are free. Each additional print costs \$5.25. How many prints can you buy with \$257.50?

257.50=(00)+5.25(p-4)

Where
$$p \ge 4$$
 $157.50 = 5.25(p-4)$
 $30^{\frac{14}{5}}(p-4)^{\frac{14}{5}}$
 $p = 34$

Check

 $257.50 = 100 + 5.25(30)$
 $257.50 = 100 + 157.50$
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Complete: p. 210 - 211 #1 - 3, 5, 6, 10ace, 12ace.