L.O. Solve two-step equations – Reasoning and Problem Solving ANSWERS

Reasoning 1

Do the operations correctly show how to use inverse operations to find the value of x?

Explain your reasoning.

$7(x - 2) = 42$

÷ 7

$(x - 2) = 6$

− 2

$x = 4$

This should be the inverse which is + 2

Reasoning 2

Complete the inverse operations to find the value of x.

$8(x + 3) = 96$

÷ 8

$(x + 3) = 12$

− 3

$x =$ 9

Problem Solving 1

There are six different possible values of x in this equation. Can you find them all and write the six different equations?

$\square x + 4 = 34$

By −4 from both sides, we get ?x = 30

Therefore, the values of x can be all the factors of 30.

$15x + 4 = 34$ where $x = 2$

$10x + 4 = 34$ where $x = 3$

$6x + 4 = 34$ where $x = 5$

$5x + 4 = 34$ where $x = 6$

$3x + 4 = 34$ where $x = 10$

$2x + 4 = 34$ where $x = 15$

Problem Solving 2

What could the missing digits in this equation be?

$3x + \square = \square$

The value of x in my equation is a two-digit prime number less than 30. The answer to the equation is a square number.

Possible answers:

If $x = 11$, then $3x + 3 = 36$ or $3x + 16 = 49$

If $x = 13$, then $3x + 10 = 49$ or $3x + 25 = 64$

Problem Solving 3

Step 1: Find x (using A and B)

$5x + 4 = 34cm$

$5x = 34 - 4$

$5x = 30cm$

$x = 30 \div 5$

$x = 6cm$

Step 2: Find the length of pencil D

$4x + 25 = ?$

$(4 \times 6) + 25 = 49cm$

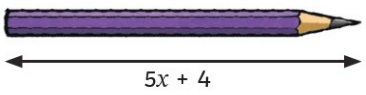
Step 2: Find the length of pencil C

A, B and D $(34 + 34 + 49 = 117)$

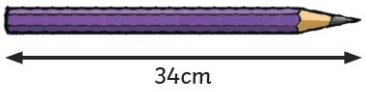
$139cm - 117cm = 22cm$

Pencil C is 22cm long.

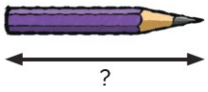
A



B



C



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