

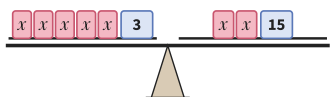
Equations: the Unknown on Both Sides

ANSWERS

1

Solve

$$5x + 3 = 2x + 15$$



$- 2x$ both sides $3x + 3 = 15$

$- 3$ both sides $3x = 12$

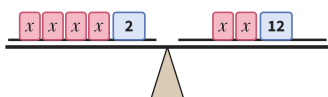
$\div 3$ both sides $x = 4$

Answer $x = 4$

2

Solve

$$4x + 2 = 2x + 12$$



$- 2x$ both sides $2x + 2 = 12$

$- 2$ both sides $2x = 10$

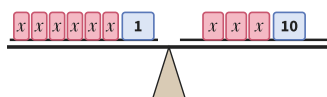
$\div 2$ both sides $x = 5$

Answer $x = 5$

3

Solve

$$6x + 1 = 3x + 10$$



$- 3x$ both sides $3x + 1 = 10$

$- 1$ both sides $3x = 9$

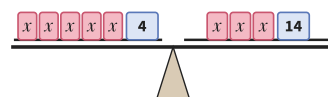
$\div 3$ both sides $x = 3$

Answer $x = 3$

4

Solve

$$5x + 4 = 3x + 14$$



$- 3x$ both sides $2x + 4 = 14$

$- 4$ both sides $2x = 10$

$\div 2$ both sides $x = 5$

Answer $x = 5$

5

Solve

$$7x + 2 = 4x + 20$$

$- 4x$ both sides $3x + 2 = 20$

$- 2$ both sides $3x = 18$

$\div 3$ both sides $x = 6$

Answer $x = 6$

6

Solve

$$3x + 5 = x + 11$$

$- x$ both sides $2x + 5 = 11$

$- 5$ both sides $2x = 6$

$\div 2$ both sides $x = 3$

Answer $x = 3$

7

The expressions $3x + 4$ and $x + 12$ are equal. Find x .

$3x + 4 = x + 12$

Answer $x = 4$

8

A square has sides of $(2x + 1)$ cm and $(x + 6)$ cm. Find the length of one side.

$2x + 1 = x + 6$, so $x = 5$

Answer 11 cm

Equations: the Unknown on Both Sides further practice

ANSWERS

9

Solve

$$7x + 2 = 3x + 26$$

$4x + 2 = 26$

$4x = 24$

Answer $x = 6$

10

Solve

$$5x - 4 = 2x + 11$$

$3x - 4 = 11$

$3x = 15$

Answer $x = 5$

11

Solve

$$3x + 20 = 7x + 4$$

$20 = 4x + 4$

$16 = 4x$

Answer $x = 4$

12

Solve

$$4x + 9 = x + 3$$

$3x + 9 = 3$

$3x = -6$

Answer $x = -2$

13

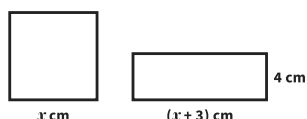
Ella has 3 full bags of sweets and 8 loose sweets. Finn has 1 full bag and 20 loose sweets. Every bag holds the same number of sweets. Ella and Finn have the same number of sweets. How many sweets are in a bag?

$3b + 8 = b + 20$

Answer 6

14

The square and the rectangle have the same perimeter. Find x .



$4x = 2x + 14$

Answer $x = 7$

15

Tank A holds 90 litres of water and drains at 4 litres a minute. Tank B holds 60 litres and drains at 1 litre a minute. After how many minutes do they hold the same amount?

$90 - 4t = 60 - t$

Answer 10 minutes

16

Tom solves $6x + 5 = 2x + 17$. His first line is $8x + 5 = 17$. What has Tom done wrong? Find the right answer.

he added $2x$ instead of subtracting it

$4x + 5 = 17$

Answer $x = 3$