

Worked Examples

CGI Problem Types Multiplication and Division

1 correct and 1 incorrect solution for the given story -
but all the math computation is correct



Facilitating the Discussion of Worked Examples

- Launch task - Display slide with story problem and read out loud to students. Have them discuss the context. Read second time together with students and have them discuss what the numbers represent.
- Students have 1 minute of private think time.
- Then, display the 2 solutions and explain that one is correct and one is incorrect for this story situation. Partners/groups discuss to determine which is correct and ALSO why they think the person who solved the incorrect solution solved it that way.
- Consolidate the thinking as a whole class.

Facilitating the Discussion of Equations

I have chosen not to include equations with the examples because there are SO many different ones for each situation and I don't want anyone thinking there is only one "right" equation. Please be sure to discuss with your students the variations that have at their heart the commutative property of addition and equality.

Possible Equations for this Situation



$$3 \times 4 = 12$$

$$4 \times 3 = 12$$

$$12 = 3 \times 4$$

$$12 = 4 \times 3$$

$$12 \div 4 = 3$$

$$12 \div 3 = 4$$

$$3 = 12 \div 4$$

$$4 = 12 \div 3$$

Equal Groups Product Unknown

Worked Example

If there were 3 bags and each contained 4 marbles, how many marbles were there in all?

[Click here when ready to reveal the two solutions.](#)

Equal Groups

Number in Each Group Unknown

Worked Example

If 6 granola bars were shared equally between 3 friends. How many can each friend get?

[Click here when ready to reveal the two solutions.](#)

Equal Groups

Number of Groups Unknown

Worked Example

A bakery had boxes that could fit 4 muffins to a box. If there were 20 muffins in all, how many boxes could be filled?

Click here when ready to reveal the two solutions.

Array Product Unknown

Worked Example

There were dinner rolls arranged on a tray in 3 rows each having 4 dinner rolls. How many dinner rolls were there in all?

[Click here when ready to reveal the two solutions.](#)

Arrays

Number of Rows Unknown

Worked Example

Lin organized his toy dinosaurs into rows. If he had a total of 18 dinosaurs and there were 6 in each row, how many rows were there?

[Click here when ready to reveal the two solutions.](#)

Arrays

Number in Each Row Unknown

Worked Example

A farmer planted 15 carrots into rows in her garden. If there were 5 rows with the same amount in each row, how many carrot plants were in each row?

[Click here when ready to reveal the two solutions.](#)

Multiplicative Comparison Bigger Group Unknown

Worked Example

Dan ran 3 times fewer miles than Matthew. If Dan ran 3 miles, how far did Matthew run?

[Click here when ready to reveal the two solutions.](#)

Multiplicative Comparison Smaller Group Unknown

Worked Example

Hannah owned 2 times as many games as Kathryn. If Hannah owned 8 games, how many did Kathryn own?

[Click here when ready to reveal the two solutions.](#)

Multiplicative Comparison Multiplier Unknown

Worked Example

There were 2 apples and 6 pears on a table. How many times fewer apples were there than pears?

Click here when ready to reveal the two solutions.

ANSWER KEY

If there were 3 bags and each contained 4 marbles, how many marbles were there in all?



There are 12 marbles in all.



There are 7 marbles in all.

If 6 granola bars were shared equally between 3 friends. How many can each friend get?

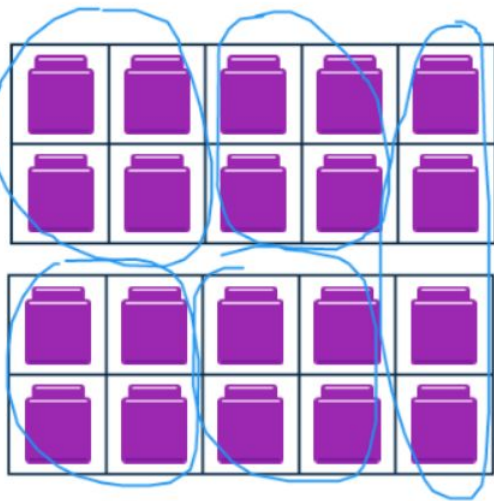


Each friend will get 9 granola bars.



Each friend will get 2 granola bars.

A bakery had boxes that could fit 4 muffins to a box. If there were 20 muffins in all, how many boxes could be filled?



5 boxes were full.

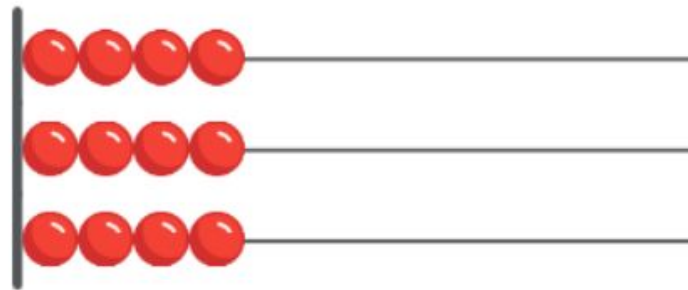


24 boxes were full.

There were dinner rolls arranged on a tray in 3 rows each having 4 dinner rolls. How many dinner rolls were there in all?

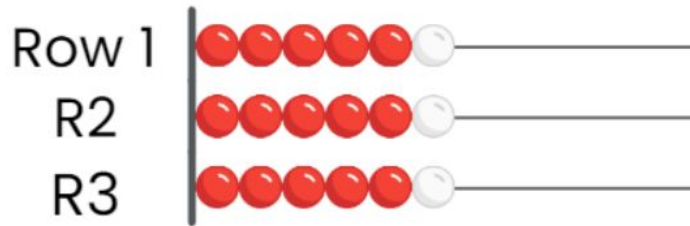


There were 7 dinner rolls.

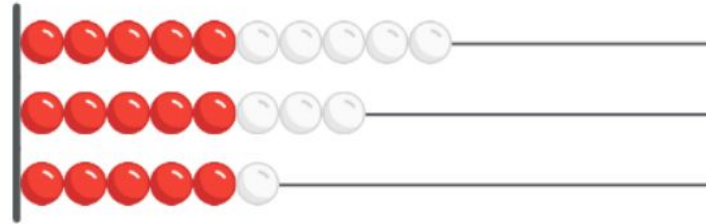


There were 12 dinner rolls.

Lin organized his toy dinosaurs into rows. If he had a total of 18 dinosaurs and there were 6 in each row, how many rows were there?

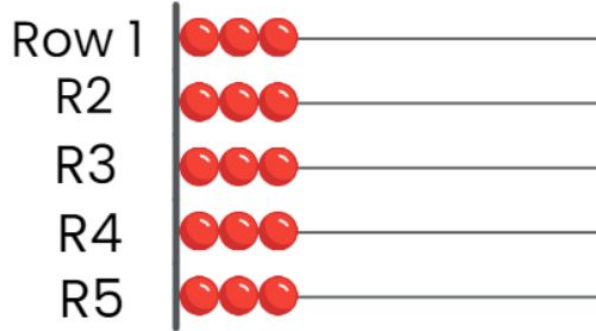


There were 3 rows of dinosaurs.

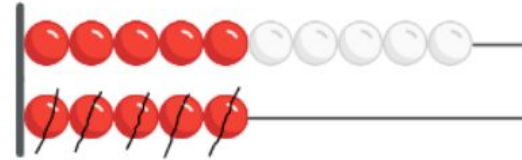


There were 24 rows of dinosaurs.

A farmer planted 15 carrots into rows in her garden. If there were 5 rows with the same amount in each row, how many carrot plants were in each row?

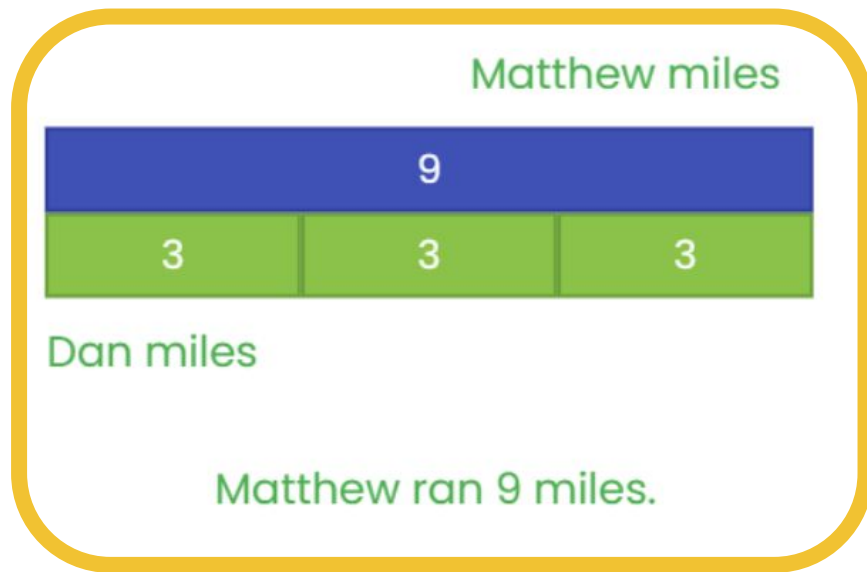
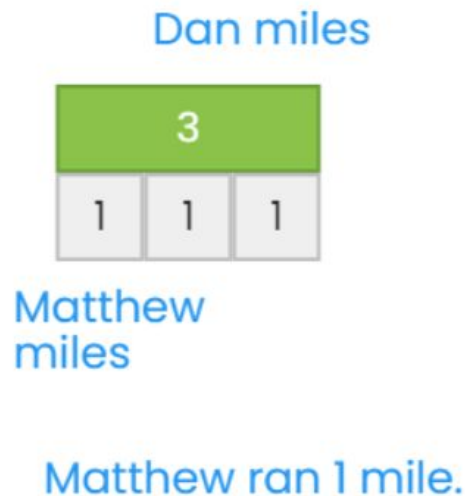


There were 3 carrot plants in each row.

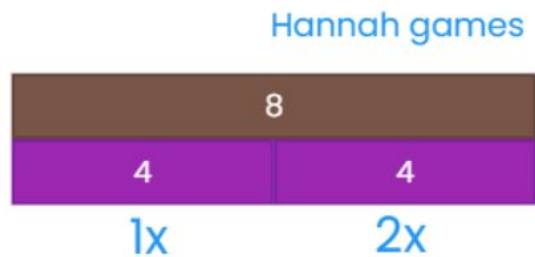


There were 10 carrot plants in each row.

Dan ran 3 times fewer miles than Matthew. If Dan ran 3 miles, how far did Matthew run?



Hannah owned 2 times as many games as Kathryn. If Hannah owned 8 games, how many did Kathryn own?



Kathryn games

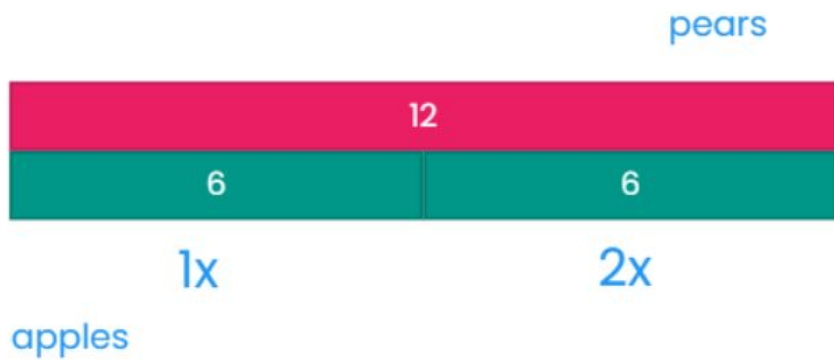
Kathryn owns 4 games.



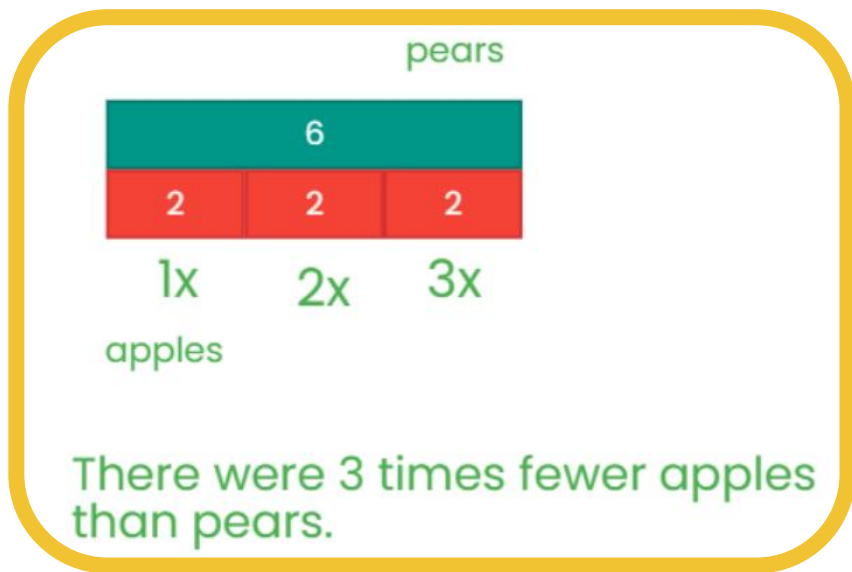
Hannah games

Kathryn owns 16 games.

There were 3 apples and 9 pears on a table. How many times fewer apples were there than pears?



There were 12 times fewer apples than pears.



There were 3 times fewer apples than pears.

Thank you for all you do to create positive math journeys!



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I offer personalized elementary math consulting services to help facilitate experiences exploring mathematics with our students in ways that develop number sense and the foundational conceptual understandings that will follow them through their entire math journeys.

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www.anneliserecord.com

aer@anneliserecord.com

Hannah owned 2 times as many games as Kathryn. If Hannah owned 8 games, how many did Kathryn own?



Hannah owned 2 times as many games as Kathryn. If Hannah owned 8 games, how many did Kathryn own?

Hannah games



1x

2x

Kathryn games

Kathryn owns 4 games.

Kathryn games



Hannah games

Kathryn owns 16 games.