

Name _____

Represent and Solve Multi-Step Problems with Bar Models

I Can represent and solve multi-step problems using bar models and equations.



UNLOCK the Problem Real World

Shaniqua buys 140 small beads and 30 large beads to make bracelets. She makes 5 bracelets. She uses 13 beads on each bracelet. How many beads does Shaniqua have left?

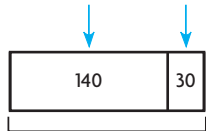
- Underline the important information.

Example 1 Use multiple single-step equations.

STEP 1 Find the total number of beads Shaniqua buys.

$$140 + 30 = a$$

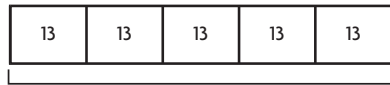
total number of small beads total number of large beads



a ← total number of beads Shaniqua buys

STEP 2 Find the total number of beads Shaniqua uses to make 5 bracelets.

$$5 \times 13 = d$$



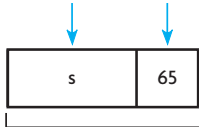
← 5 bracelets with 13 beads

d ← total number of beads Shaniqua uses

STEP 3 Find the total number of beads Shaniqua has left.

$$170 - 65 = s$$

beads left beads used



170 ← total number of beads Shaniqua buys

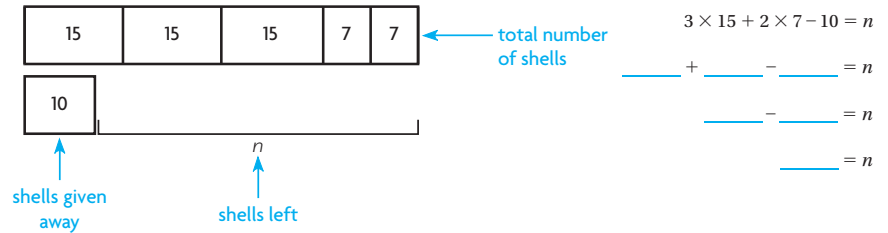
So, Shaniqua has _____ beads left.

Florida's B.E.S.T.

- Algebraic Reasoning 5.AR.1.1, 5.AR.2.4
- Number Sense & Operations 5.NSO.2.1, 5.NSO.2.2
- Mathematical Thinking & Reasoning MTR.2.1, MTR.3.1, MTR.5.1

Try This! Sometimes you can use one multi-step equation to solve a problem.

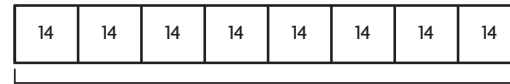
Miguel sorts his seashell collection into boxes. He has 3 boxes with 15 periwinkle shells in each box. He has 2 boxes with 7 clamshells in each box. He gives his little brother 10 shells. How many shells does he have now?



Example 2

Banu has two card-collection books. The first book has 8 cards on each of 14 pages. The second book has 6 cards on each of 15 pages. Which of the two books has more cards?

STEP 1 Solve the equation $b \div 8 = 14$ to find the number of cards in the first book.

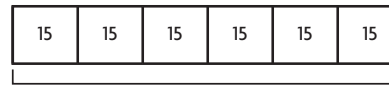


b

Write a related multiplication equation.

$$14 \times \underline{\hspace{1cm}} = b \quad b = \underline{\hspace{1cm}}$$

STEP 2 Solve the equation $p \div 6 = 15$ to find the number of cards in the second book.



p

Write a related multiplication equation.

$$15 \times \underline{\hspace{1cm}} = p \quad p = \underline{\hspace{1cm}}$$

STEP 3 Compare the number of cards in each book.

The first book has _____ cards.

The second book has _____ cards.

Since _____ > _____, the _____ book has more cards.



MTR 2.1 Demonstrate understanding in multiple ways.

Explain why you can use a related multiplication equation to solve a division problem.