Math
Spring Operational 2015

Grade 3
PBA Item #15
Packages of Pictures
M00819

Prompt

Mr. Haley bought a total of 36 pictures. The pictures are only sold in packages. Each package came with 4 small pictures, 3 medium pictures, and 2 large pictures. Mr. Haley bought 36 pictures in all.

How many pictures were in each package? Show your work.

How many packages did he buy? Show your work.

Enter your answers and your work in the space provided.

Rubric

Task is worth a total of 3 points.

M00819 Rubric	
Score	**Description**

3	Student response includes the following 3 elements.
	• **Modeling component** = 2 points
	  • Valid method to find the number of pictures in one package and gives the correct number of pictures; 9
	  • Valid method showing how the number of pictures in a package is used to find the number of packages
	• **Computation component** = 1 point
	  o Correct number of packages, 4
	Sample Student Response:
	Number of pictures in 1 package: $4 + 3 + 2 = 9$ pictures
	Number of packages: $36 \div 9 = 4$
	Mr. Haley bought 4 packages.

2	Student response includes 2 of the 3 elements.
1	Student response includes 1 of the 3 elements.
0	Student response is incorrect or irrelevant.

Anchor Set
A1 – A8

A1

Score Point 3

Mr. Haley bought a total of 36 pictures. The pictures are only sold in packages. Each package came with 4 small pictures, 3 medium pictures, and 2 large pictures. Mr. Haley bought 36 pictures in all.

How many pictures were in each package? Show your work.

How many packages did he buy? Show your work.

2
3
+4
9

$36 \div 9 = 4$

He bought 4 packages

Annotations

Anchor Paper 1
Score Point 3
This response receives full credit. The response includes each of the three required elements:

- Valid work is provided to find the number of pictures in one package *(2+3+4=9)*.
- Valid work is shown to find the number of packages ($36 \div 9 = 4$). 36 divided by 9 is the total amount of pictures purchased divided by the number of pictures in one package.
- The correct number of packages is identified (*He bought 4 packages*).

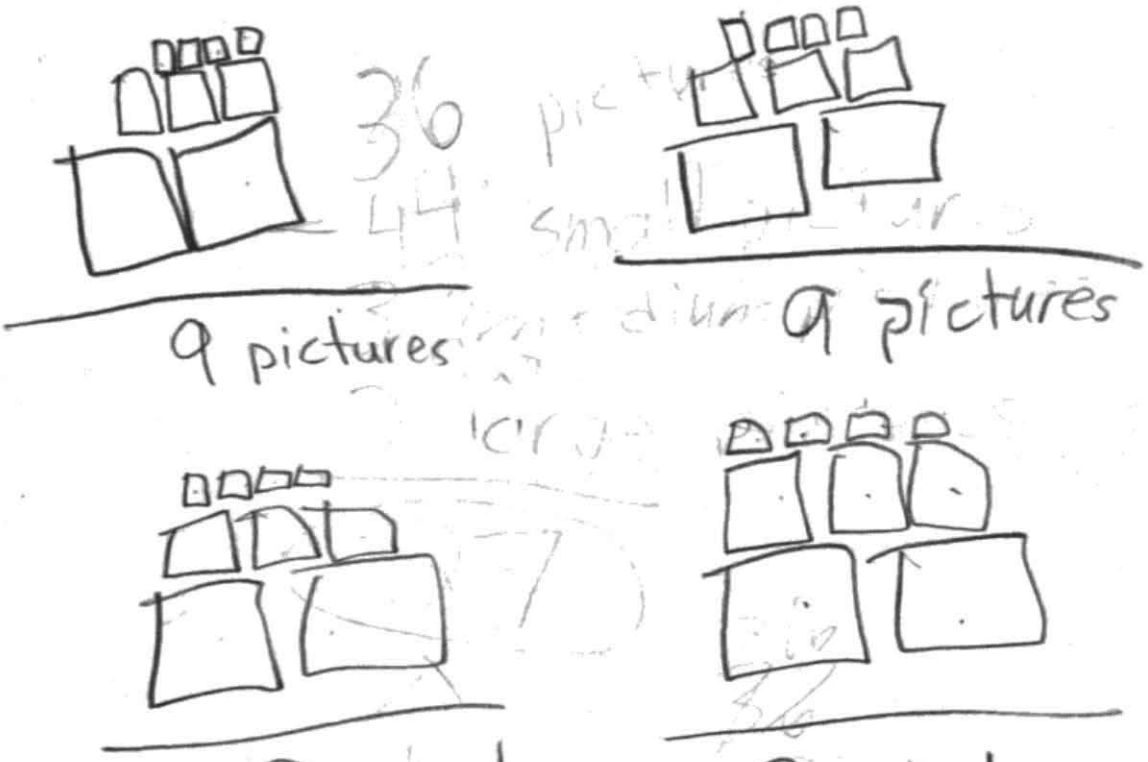
A2

Score Point 3

Mr. Haley bought a total of 36 pictures. The pictures are only sold in packages. Each package came with 4 small pictures, 3 medium pictures, and 2 large pictures. Mr. Haley bought 36 pictures in all.

How many pictures were in each package? Show your work.

How many packages did he buy? Show your work.



He bought 4 packages and 9 pictures in each package.

Annotations

Anchor Paper 2
Score Point 3
This response receives full credit. The response includes each of the three required elements:

- Valid work provided to find the number of pictures in one package is identified with work shown by the student drawing a line of 4 small pictures, a line of 3 medium pictures, and a line of two large pictures and adding the three lines up to find the sum (*9 pictures*).
- Correct work is shown to find the number of packages needed by drawing the number of pictures in one package and repeating that package until 36 pictures were found.
- The correct number of packages is identified (*he bought 4 packages*).

A3

Score Point 2

Mr. Haley bought a total of 36 pictures. The pictures are only sold in packages. Each package came with 4 small pictures, 3 medium pictures, and 2 large pictures. Mr. Haley bought 36 pictures in all.

How many pictures were in each package? Show your work.

How many packages did he buy? Show your work.

$4 + 3 + 2 = 9$

He bought 4 packages with 9 in each package.

Annotations

Anchor Paper 3
Score Point 2
This response receives partial credit. The response includes two of the three required elements:

- Valid work is provided to find the number of pictures in one package ($4 + 3 + 2 = 9$).
- The correct number of packages is identified (*He bought 4 packages*).

No work is shown to find the number of packages.

A4

Score Point 2

Mr. Haley bought a total of 36 pictures. The pictures are only sold in packages. Each package came with 4 small pictures, 3 medium pictures, and 2 large pictures. Mr. Haley bought 36 pictures in all.

How many pictures were in each package? Show your work.

How many packages did he buy? Show your work.

4 because $36 \div 9 = 4$. so the answer is 4.

Numbers

0	1	2	3
4	5	6	7
8	9	,	.

Arithmetic and Units

≠	[·]	$	°

Annotations

Anchor Paper 4
Score Point 2
This response receives partial credit. The response includes two of the three required elements:

- Valid work is shown to find the number of packages needed by dividing the total number of pictures purchased by the number of pictures in one package ($36 \div 9 = 4$).
- The correct number of packages is identified (*the answer is 4*).

No work is shown to find the number of pictures in one package.

A5

Score Point 1

Mr. Haley bought a total of 36 pictures. The pictures are only sold in packages. Each package came with 4 small pictures, 3 medium pictures, and 2 large pictures. Mr. Haley bought 36 pictures in all.

How many pictures were in each package? Show your work.

How many packages did he buy? Show your work.

$4 + 3 + 2 = 9$. He bought 6 packiges

Numbers

0 1 2 3
4 5 6 7
8 9 , .

Arithmetic and Units

≠ [·] $ °

Annotations

Anchor Paper 5
Score Point 1
This response receives partial credit. The response includes one of the three required elements:

- Valid work is provided to find the number of pictures in one package ($4 + 3 + 2 = 9$).

No work is shown using the numbers of pictures in one package to find the number of packages.

An incorrect number of packages (*6*) is identified.

A6

Score Point 1

Mr. Haley bought a total of 36 pictures. The pictures are only sold in packages. Each package came with 4 small pictures, 3 medium pictures, and 2 large pictures. Mr. Haley bought 36 pictures in all.

How many pictures were in each package? Show your work.

How many packages did he buy? Show your work.

$36 \div 9 = 4$

Annotations

Anchor Paper 6
Score Point 1
This response receives partial credit. The response includes one of the three required elements:

- Valid work is shown to find the number of packages ($36 \div 9 = 4$). 36 divided by 9 represents the total number of pictures divided by the number of pictures in one package.

No work is shown to find the number of pictures in each package.

The number of packages is not identified. Although the number 4 is provided, it is not identified as the number of packages needed.

A7

Score Point 0

Mr. Haley bought a total of 36 pictures. The pictures are only sold in packages. Each package came with 4 small pictures, 3 medium pictures, and 2 large pictures. Mr. Haley bought 36 pictures in all.

How many pictures were in each package? Show your work.

How many packages did he buy? Show your work.

4
x 3
2
24

12 in each package

6 packages

36
- 24
12

Annotations

Anchor Paper 7
Score Point 0
This response receives no credit. The response includes none of the three required elements:

An incorrect number of pictures in one package (*12*) is identified.

The work shown is not a valid method to find the number of pictures in one package (*4 + 3 + 2 = 24*).

The work does not show a valid method to find the number of packages (*36 – 24 = 12*).

An incorrect number of packages (*6*) is identified.

A8

Score Point 0

Mr. Haley bought a total of 36 pictures. The pictures are only sold in packages. Each package came with 4 small pictures, 3 medium pictures, and 2 large pictures. Mr. Haley bought 36 pictures in all.

How many pictures were in each package? Show your work.

How many packages did he buy? Show your work.

- 9 picturers in each package
- 36 packages

Annotations

Anchor Paper 8
Score Point 0
This response receives no credit. The response includes none of the three required elements:

While the number of pictures in each package is identified (*9 pictures in each package*), no work is shown to find the number of pictures in one package. The work must be shown to receive credit for this element.

No work is shown to find the number of packages.

An incorrect number of packages (*36*) is identified.

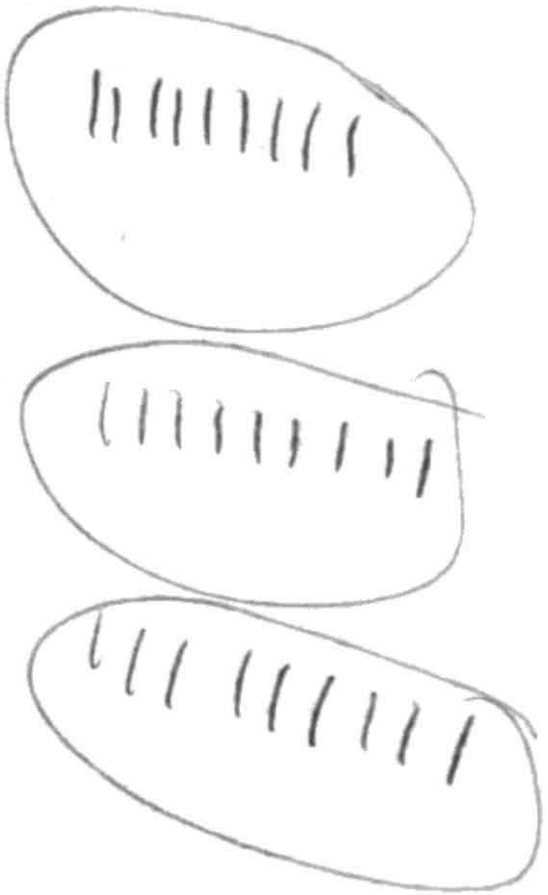
Practice Set
P101 - P105

Mr. Haley bought a total of 36 pictures. The pictures are only sold in packages. Each package came with 4 small pictures, 3 medium pictures, and 2 large pictures. Mr. Haley bought 36 pictures in all.

How many pictures were in each package? Show your work.

How many packages did he buy? Show your work.

Ther is 9 pictures in each package.



She bought 4 packages.

Mr. Haley bought a total of 36 pictures. The pictures are only sold in packages. Each package came with 4 small pictures, 3 medium pictures, and 2 large pictures. Mr. Haley bought 36 pictures in all.

How many pictures were in each package? Show your work.

How many packages did he buy? Show your work.

$36 + 4 + 3 + 2 = 45$

Mr. Haley bought a total of 36 pictures. The pictures are only sold in packages. Each package came with 4 small pictures, 3 medium pictures, and 2 large pictures. Mr. Haley bought 36 pictures in all.

How many pictures were in each package? Show your work.

How many packages did he buy? Show your work.

9 pictures in each package
$4 + 3 + 2 = 9$
Mr.haley bought 4 packages
$9 + 9 + 9 + 9 = 36$

Numbers

0	1	2	3
4	5	6	7
8	9	,	.

Arithmetic and Units

≠	[·]	$	°

Mr. Haley bought a total of 36 pictures. The pictures are only sold in packages. Each package came with 4 small pictures, 3 medium pictures, and 2 large pictures. Mr. Haley bought 36 pictures in all.

How many pictures were in each package? Show your work.

How many packages did he buy? Show your work.

9 in each package
Mr. Haley has to
buy 4 packages

Mr. Haley bought a total of 36 pictures. The pictures are only sold in packages. Each package came with 4 small pictures, 3 medium pictures, and 2 large pictures. Mr. Haley bought 36 pictures in all.

How many pictures were in each package? Show your work.

How many packages did he buy? Show your work.

$4 + 3 + 2 = 9$
$36 \div 9 = 4$

Practice Set

Paper	Score
P101	2
P102	0
P103	3
P104	1
P105	2