

MATH GRADE 6

A. Short Answer (SA) 2 points

Mean: 0.50

Standard: I.B

Strand: Number and operations
Content Standard: Students will understand numerical concepts and mathematical operations
Benchmark: Understand the meaning of operations and how they relate to one another

A factory produces metal bolts and ships them in packages that contain 12 bolts each. It costs the factory \$2.50 to ship each package. Last week, the factory produced a total of 4356 bolts. How much will it cost the factory to ship packages that contain a total of 4356 bolts? Use words, numbers, or pictures to explain your answer.



A. Rubric

New Mexico Rubric for 2-point Open-Ended Items

Score	Description
2	<p>The student response</p> <ul style="list-style-type: none"> offers a correct solution and is well supported by well-developed and accurate explanations. gives evidence that an appropriate problem-solving strategy was selected and implemented, but may contain minor errors that do not detract from the overall quality of the student response. is clearly organized and focused, and shows a mathematical understanding of the task or concept. contains sufficient work to convey thorough understanding of the problem.
1	<p>The student response</p> <ul style="list-style-type: none"> offers a correct solution with no supporting evidence or explanation. offers a partially correct answer to the problem. may contain flaws indicating an incomplete understanding of the task or concept. may show faulty reasoning leading to weak answers or conclusions. may demonstrate unclear communication in writing or diagrams. may demonstrate a poor understanding of relevant mathematical procedure or concepts.
0	<p>The student response</p> <ul style="list-style-type: none"> gives an incorrect response with no work shown. offers no mathematical understanding of the problem does not address the problem.

C. Student Responses

SCORE 2

32 stop #1	stop #2	answer
$ \begin{array}{r} 363 \\ 12 \overline{) 4356} \\ \underline{-36} \\ 75 \\ \underline{-72} \\ 36 \\ \underline{-36} \\ 0 \end{array} $	$ \begin{array}{r} 363 \\ \times 250 \\ \hline 18150 \\ + 72600 \\ \hline 90750 \end{array} $	$\$907.50$

32 It costed the company \$907.50.

First, I have to figure out how many packages it will require to ship all of the bolts. I do this by dividing the number of bolts per package (12) into the total number of bolts (4356). The result is 363. I then must multiply that by the cost per package (\$2.50) to find out the total cost of the 4356 bolts that the company shipped out last week.

32 It will cost them \$907.50. I know this because the bolts are comprised into 363 packages shipping for \$2.50 each, $363 \text{ packages} \times \$2.50 = \$907.50$.

SCORE 1

32

$\begin{array}{r} 373 \\ 12 \overline{)4356} \\ \underline{36} \\ 75 \\ \underline{72} \\ 30 \\ \underline{30} \\ 0 \end{array}$	$\begin{array}{r} 373 \\ \times 250 \\ \hline 18650 \\ + 74600 \\ \hline 93250 \end{array}$
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\$932.50 to ship bolts

32

$$\begin{array}{r}
 3659.8 \\
 12 \overline{) 4356} \\
 \underline{-36} \\
 65 \\
 \underline{-60} \\
 56 \\
 \underline{48} \\
 8
 \end{array}$$

$$\begin{array}{r}
 3 \quad 54 \\
 \times 2150 \\
 \hline
 0 \\
 16200 \\
 +7080 \\
 \hline
 23280
 \end{array}$$

\$ 23280

32

It will cost them \$907.50 to ship the bolts.

SCORE 0

32

It will cost the factory \$36590.40 to ship 4356 bolts. 4356 bolts will make 52272 packages. Each package costs \$2.50 each they will spend \$36590.40 to ship each package.

32

$$\begin{array}{r} 135 \\ 4356 \\ \times 250 \\ \hline 217.80 \end{array}$$

32

$$\begin{array}{r} 61.4 \\ \sqrt{4356} \\ \underline{4200} \\ 156 \\ \underline{120} \\ 36 \\ \underline{36} \\ 0 \end{array} \quad 61.4$$