PSSA, Grade 7 Math

Bella's Gardening Materials

Handscoring
Anchor Set

1. Bella bought gardening materials from different stores.

At Garden Mart, Bella bought g packets of geranium seeds, m packets of marigold seeds, and z packets of zinnia seeds. All of the plant seeds were on sale for half price. The expression shown below represents the total cost of the plant seeds Bella bought.

$$\frac{1}{2}(2.48g + 1.74m + 1.96z)$$

A. Write an expression without parentheses that also represents Bella's total cost at Garden Mart.

At Plant World, Bella bought a hose and a shovel. The hose was priced at $29.68, but Bella had a coupon for x dollars off. The price of the shovel was $14.45.

B. Write an expression to represent how much money, in dollars, Bella spent at Plant World.

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1. ***Continued.*** Please refer to the previous page for task explanation.

Bella went to Yard Depot multiple times. Each time she was there, Bella bought a gardening hat and y pairs of gardening gloves. The expression shown below represents the total amount of money, in dollars, Bella spent at Yard Depot.

$$a(by + c)$$

C. Explain what a, b, and c each mean in terms of the situation.

Grade 7 Math
Bella's Gardening Materials

Assessment Anchor this item will be reported under:
    M07.B-E.1 Represent expressions in equivalent forms.
Specific Anchor Descriptor addressed by this item:
    M07.B-E.1.1 Use properties of operations to generate equivalent expressions.

Scoring Guide:

Score	In this item, the student –
4	Demonstrates a thorough understanding of representing expressions in equivalent forms by correctly solving problems and clearly explaining procedures.
3	Demonstrates a general understanding of representing expressions in equivalent forms by correctly solving problems and clearly explaining procedures with only minor errors or omissions.
2	Demonstrates a partial understanding of representing expressions in equivalent forms by correctly performing a significant portion of the required task.
1	Demonstrates minimal understanding of representing expressions in equivalent forms.
0	The response has no correct answer and insufficient evidence to demonstrate any understanding of the mathematical concepts and procedures as required by the task. Response may show only information copied from the question.

Top Scoring Student Response And Training Notes:

Score	Description
4	Student earns 4 points.
3	Student earns 3.0 – 3.5 points.
2	Student earns 2.0 – 2.5 points.
1	Student earns 0.5 - 1.5 points. OR Student demonstrates minimal understanding of representing expressions in equivalent forms.
0	Response is incorrect or contains some correct work that is irrelevant to the skill or concept being measured.

A.

What?	Why?
$1.24g + 0.87m + 0.98z$ **OR** $\dfrac{1}{2} \times 2.48g + \dfrac{1}{2} \times 1.74m + \dfrac{1}{2} \times 1.96z$ **OR EQUIVALENT**	

(1 score point)

      1 point for correct answer

B.

What?	Why?
$44.13 - x$ **OR** $29.68 - x + 14.45$ **OR EQUIVALENT**	

(1 score point)

      1 point for correct answer

C.

What?	Why?
	Sample Explanation: The a represents the number of times Bella goes to Yard Depot. The b represents the price for each pair of gloves. The c represents the price for a gardening hat.

(2 score points)

      2 points for 3 correct and complete explanations

            OR 1 point for 2 of 3 correct and complete explanations

73. Bella bought gardening materials from different stores.

At Garden Mart, Bella bought g packets of geranium seeds, m packets of marigold seeds, and z packets of zinnia seeds. All of the plant seeds were on sale for half price. The expression shown below represents the total cost of the plant seeds Bella bought.

$$\frac{1}{2}(2.48g + 1.74m + 1.96z)$$

A. Write an expression without parentheses that also represents Bella's total cost at Garden Mart.

$1.24g + 0.87m + 0.98z$

At Plant World, Bella bought a hose and a shovel. The hose was priced at $29.68, but Bella had a coupon for x dollars off. The price of the shovel was $14.45.

B. Write an expression to represent how much money, in dollars, Bella spent at Plant World.

$(29.68 + 14.45) - x$

73. *Continued.* Please refer to the previous page for task explanation.

Bella went to Yard Depot multiple times. Each time she was there, Bella bought a gardening hat and y pairs of gardening gloves. The expression shown below represents the total amount of money, in dollars, Bella spent at Yard Depot.

$$a(by + c)$$

C. Explain what a, b, and c each mean in terms of the situation.

'a' represents the amount of times she went to Yard Depot

'b' represents the cost of a pair of gloves

'c' represents the cost of the gardening hat

73. Bella bought gardening materials from different stores.

At Garden Mart, Bella bought g packets of geranium seeds, m packets of marigold seeds, and z packets of zinnia seeds. All of the plant seeds were on sale for half price. The expression shown below represents the total cost of the plant seeds Bella bought.

$$\frac{1}{2}(2.48g + 1.74m + 1.96z)$$

A. Write an expression without parentheses that also represents Bella's total cost at Garden Mart.

$$1.24g + 0.87m + 0.98z$$

At Plant World, Bella bought a hose and a shovel. The hose was priced at $29.68, but Bella had a coupon for x dollars off. The price of the shovel was $14.45.

B. Write an expression to represent how much money, in dollars, Bella spent at Plant World.

$$(29.68 - x) + 14.45$$

73. *Continued.* Please refer to the previous page for task explanation.

Bella went to Yard Depot multiple times. Each time she was there, Bella bought a gardening hat and y pairs of gardening gloves. The expression shown below represents the total amount of money, in dollars, Bella spent at Yard Depot.

$$a(by + c)$$

C. Explain what a, b, and c each mean in terms of the situation.

I needed to figure out what a, b, and c mean in terms of the situation given. I knew that Bella went to the Yard Depot multiple times and bought a gardening hat and y pairs of gloves every time. This helped me to conclude that everything inside of the parenthesis represents the items bought and cost after visiting the store once. I knew this because y definitely stood for the amount of pairs of gloves she buys in one visit to the store. Because y only represents the amount of pairs of gloves, I knew the cost of one pair would need to be included in the expression. I know that b represents the cost of one pair of gloves because multiplying it by y would tell the cost of however many pairs Bella buys. This meant that c represents the cost of one hat because it could be added to the product of b and y to find the total cost after visiting the store once. I knew then that a represents the number of times she visits Yard Depot because it can be multiplied by the cost of one visit there to find the total amount spent after several visits.

73. Bella bought gardening materials from different stores.

At Garden Mart, Bella bought *g* packets of geranium seeds, *m* packets of marigold seeds, and *z* packets of zinnia seeds. All of the plant seeds were on sale for half price. The expression shown below represents the total cost of the plant seeds Bella bought.

$$\frac{1}{2}(2.48g + 1.74m + 1.96z)$$

A. Write an expression without parentheses that also represents Bella's total cost at Garden Mart.

$1.24g + 0.87m + 0.98z$

At Plant World, Bella bought a hose and a shovel. The hose was priced at $29.68, but Bella had a coupon for *x* dollars off. The price of the shovel was $14.45.

B. Write an expression to represent how much money, in dollars, Bella spent at Plant World.

$44.13 - x$

73. *Continued.* Please refer to the previous page for task explanation.

Bella went to Yard Depot multiple times. Each time she was there, Bella bought a gardening hat and *y* pairs of gardening gloves. The expression shown below represents the total amount of money, in dollars, Bella spent at Yard Depot.

$$a(by + c)$$

C. Explain what *a*, *b*, and *c* each mean in terms of the situation.

c=gardening hat cost because she bought one of it

b=cost of gloves because she bought many pairs

a=how many times she went there because the equation says the items cost the same

⊢

73. Bella bought gardening materials from different stores.

At Garden Mart, Bella bought *g* packets of geranium seeds, *m* packets of marigold seeds, and *z* packets of zinnia seeds. All of the plant seeds were on sale for half price. The expression shown below represents the total cost of the plant seeds Bella bought.

$$\frac{1}{2}(2.48g + 1.74m + 1.96z)$$

A. Write an expression without parentheses that also represents Bella's total cost at Garden Mart.

$$\frac{1}{2} \cdot 2.48g + \frac{1}{2} \cdot 1.74m + \frac{1}{2} \cdot 1.96z$$

At Plant World, Bella bought a hose and a shovel. The hose was priced at $29.68, but Bella had a coupon for *x* dollars off. The price of the shovel was $14.45.

B. Write an expression to represent how much money, in dollars, Bella spent at Plant World.

$(\$29.68 - x) + \$14.45 =$ the amount of money Bella spent at Plant World

73. *Continued.* Please refer to the previous page for task explanation.

Bella went to Yard Depot multiple times. Each time she was there, Bella bought a gardening hat and y pairs of gardening gloves. The expression shown below represents the total amount of money, in dollars, Bella spent at Yard Depot.

$$a(by + c)$$

C. Explain what a, b, and c each mean in terms of the situation.

a = how many times Bella went to Yard Depot

b = the cost of one pair of gardening gloves

c = the cost of the gardening hat

I know that a is how many times Bella went to Yard Depot because a is outside of the parentheses. This is important because everything inside the parentheses represents what she bought while at the store. Therefore, a must be the number of times she went to Yard Depot because you have to multiply her spendings by the amount of times she went to the store, and that is what the equation has you do.

I know that b is the cost of one pair of gardening gloves because b is next to y. This is significant because y is the number of gloves she bought, so you would have to multiply the amount of gloves by the cost, therefore making it b as it's next to y.

I know that c is the cost of the hat because Bella bought a hat along with the gloves so you would have to add that to by.

ⱶ

73. Bella bought gardening materials from different stores.

At Garden Mart, Bella bought g packets of geranium seeds, m packets of marigold seeds, and z packets of zinnia seeds. All of the plant seeds were on sale for half price. The expression shown below represents the total cost of the plant seeds Bella bought.

$$\frac{1}{2}(2.48g + 1.74m + 1.96z)$$

A. Write an expression without parentheses that also represents Bella's total cost at Garden Mart.

$$2.48g \cdot \tfrac{1}{2} + 1.74m \cdot \tfrac{1}{2} + 1.96z \cdot \tfrac{1}{2}$$

Or

$$1.24g + .87m + .98z$$

At Plant World, Bella bought a hose and a shovel. The hose was priced at $29.68, but Bella had a coupon for x dollars off. The price of the shovel was $14.45.

B. Write an expression to represent how much money, in dollars, Bella spent at Plant World.

$$(29.68 - 29.68x) + 14.45$$

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73. *Continued.* Please refer to the previous page for task explanation.

Bella went to Yard Depot multiple times. Each time she was there, Bella bought a gardening hat and *y* pairs of gardening gloves. The expression shown below represents the total amount of money, in dollars, Bella spent at Yard Depot.

$$a(by + c)$$
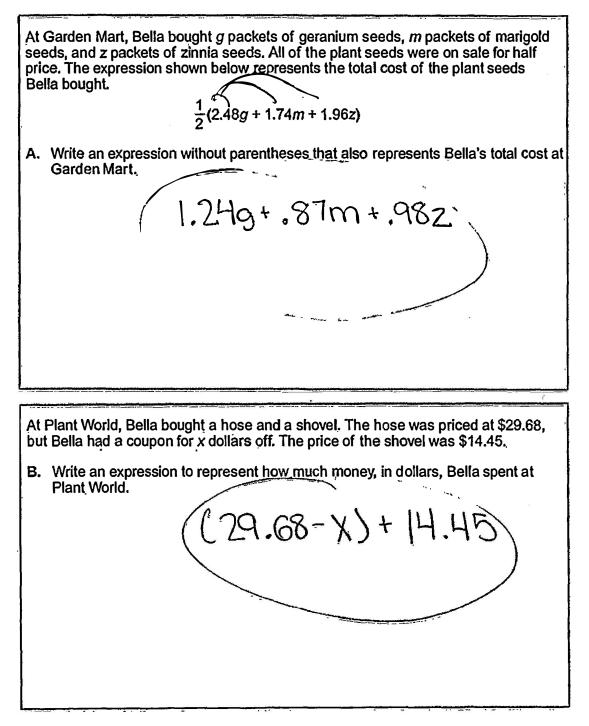
C. Explain what *a*, *b*, and *c* each mean in terms of the situation.

1.) a is the number of times Bella went to Yard Depot

2) b is the cost of the gloves

3.) y is the amount of gloves she bought

4.) c is the that price she bought.

73. Bella bought gardening materials from different stores.

At Garden Mart, Bella bought g packets of geranium seeds, m packets of marigold seeds, and z packets of zinnia seeds. All of the plant seeds were on sale for half price. The expression shown below represents the total cost of the plant seeds Bella bought.

$$\frac{1}{2}(2.48g + 1.74m + 1.96z)$$

A. Write an expression without parentheses that also represents Bella's total cost at Garden Mart.

$$1.24g + .87m + .98z$$

At Plant World, Bella bought a hose and a shovel. The hose was priced at $29.68, but Bella had a coupon for x dollars off. The price of the shovel was $14.45.

B. Write an expression to represent how much money, in dollars, Bella spent at Plant World.

$$(29.68 - x) + 14.45$$

73. *Continued.* Please refer to the previous page for task explanation.

Bella went to Yard Depot multiple times. Each time she was there, Bella bought a gardening hat and *y* pairs of gardening gloves. The expression shown below represents the total amount of money, in dollars, Bella spent at Yard Depot.

$$a(by + c)$$

C. Explain what *a*, *b*, and *c* each mean in terms of the situation.

a = taxes on the items

b = the price of gardening gloves

c = the price of a gardening hat

73. Bella bought gardening materials from different stores.

At Garden Mart, Bella bought *g* packets of geranium seeds, *m* packets of marigold seeds, and *z* packets of zinnia seeds. All of the plant seeds were on sale for half price. The expression shown below represents the total cost of the plant seeds Bella bought.

$$\frac{1}{2}(2.48g + 1.74m + 1.96z)$$

A. Write an expression without parentheses that also represents Bella's total cost at Garden Mart.

$2.48g + 1.74m + 1.96z \cdot 0.5$

At Plant World, Bella bought a hose and a shovel. The hose was priced at $29.68, but Bella had a coupon for *x* dollars off. The price of the shovel was $14.45.

B. Write an expression to represent how much money, in dollars, Bella spent at Plant World.

$\$29.68 - x = \$14.45$

73. *Continued.* Please refer to the previous page for task explanation.

Bella went to Yard Depot multiple times. Each time she was there, Bella bought a gardening hat and y pairs of gardening gloves. The expression shown below represents the total amount of money, in dollars, Bella spent at Yard Depot.

$$a(by + c)$$

C. Explain what a, b, and c each mean in terms of the situation.

a = how many times Bella went to Yard Depot and bought something

b = the price of one pair of gloves

c = the price of the gardening hat

73. Bella bought gardening materials from different stores.

At Garden Mart, Bella bought g packets of geranium seeds, m packets of marigold seeds, and z packets of zinnia seeds. All of the plant seeds were on sale for half price. The expression shown below represents the total cost of the plant seeds Bella bought.

$$\frac{1}{2}(2.48g + 1.74m + 1.96z)$$

A. Write an expression without parentheses that also represents Bella's total cost at Garden Mart.

$0.18gmz \div 2$

At Plant World, Bella bought a hose and a shovel. The hose was priced at $29.68, but Bella had a coupon for x dollars off. The price of the shovel was $14.45.

B. Write an expression to represent how much money, in dollars, Bella spent at Plant World.

$(\$29.68 - x) + \$14.45$

PSSA Math: Bella's Gardening Materials (Grade 7); Anchor Set

A8

73. *Continued.* Please refer to the previous page for task explanation.

Bella went to Yard Depot multiple times. Each time she was there, Bella bought a gardening hat and *y* pairs of gardening gloves. The expression shown below represents the total amount of money, in dollars, Bella spent at Yard Depot.

$$a(by + c)$$

C. Explain what *a*, *b*, and *c* each mean in terms of the situation.

In this expression, a represents the number of times Bella went to Yard Depot, b represents the gardening gloves, and c represents the gardening hat. I previoosly knew that y represented the pairs of gardening gloves bought, so I know that b must represent the cost of the gardening gloves (one pair). I know that Bella went to Yard Depot multiple times, so a represents the number of times she went. I also know that Bella bought a Gardening hat, so I know that c must represent the gardening hat she bought.

73. Bella bought gardening materials from different stores.

At Garden Mart, Bella bought g packets of geranium seeds, m packets of marigold seeds, and z packets of zinnia seeds. All of the plant seeds were on sale for half price. The expression shown below represents the total cost of the plant seeds Bella bought.

$$\frac{1}{2}(2.48g + 1.74m + 1.96z)$$

A. Write an expression without parentheses that also represents Bella's total cost at Garden Mart.

$$\frac{2.48g + 1.74m + 1.96z}{2}$$

At Plant World, Bella bought a hose and a shovel. The hose was priced at $29.68, but Bella had a coupon for x dollars off. The price of the shovel was $14.45.

B. Write an expression to represent how much money, in dollars, Bella spent at Plant World.

$$\frac{29.68}{x} + 14.45$$

$$\frac{29.68}{x} + 14.45 =$$

73. *Continued.* Please refer to the previous page for task explanation.

Bella went to Yard Depot multiple times. Each time she was there, Bella bought a gardening hat and *y* pairs of gardening gloves. The expression shown below represents the total amount of money, in dollars, Bella spent at Yard Depot.

$$a(by + c)$$

$a(4 + c$

C. Explain what *a*, *b*, and *c* each mean in terms of the situation.

a means the amount of times she has been there.

b means how many pairs of gloves she bought each time she was there

c means the amount of gardening hats she bought

73. Bella bought gardening materials from different stores.

At Garden Mart, Bella bought g packets of geranium seeds, m packets of marigold seeds, and z packets of zinnia seeds. All of the plant seeds were on sale for half price. The expression shown below represents the total cost of the plant seeds Bella bought.

$$\frac{1}{2}(2.48g + 1.74m + 1.96z)$$

A. Write an expression without parentheses that also represents Bella's total cost at Garden Mart.

$$\frac{1}{2} \div 2.48g + 1.74m + 1.96z$$

At Plant World, Bella bought a hose and a shovel. The hose was priced at $29.68, but Bella had a coupon for x dollars off. The price of the shovel was $14.45.

B. Write an expression to represent how much money, in dollars, Bella spent at Plant World.

$$29.68 - x + 14.45 = y$$

73. **Continued.** Please refer to the previous page for task explanation.

Bella went to Yard Depot multiple times. Each time she was there, Bella bought a gardening hat and y pairs of gardening gloves. The expression shown below represents the total amount of money, in dollars, Bella spent at Yard Depot.

$$a(by + c)$$

C. Explain what a, b, and c each mean in terms of the situation.

b means the garden gloves
c means her hat

a = yard Depot

73. Bella bought gardening materials from different stores.

At Garden Mart, Bella bought g packets of geranium seeds, m packets of marigold seeds, and z packets of zinnia seeds. All of the plant seeds were on sale for half price. The expression shown below represents the total cost of the plant seeds Bella bought.

$$\frac{1}{2}(2.48g + 1.74m + 1.96z)$$

A. Write an expression without parentheses that also represents Bella's total cost at Garden Mart.

$$2.48g/.5 + 1.74m/.5 + 1.96z/.5$$

At Plant World, Bella bought a hose and a shovel. The hose was priced at $29.68, but Bella had a coupon for x dollars off. The price of the shovel was $14.45.

B. Write an expression to represent how much money, in dollars, Bella spent at Plant World.

$$(29.68/x) + 14.45$$

73. *Continued.* Please refer to the previous page for task explanation.

Bella went to Yard Depot multiple times. Each time she was there, Bella bought a gardening hat and *y* pairs of gardening gloves. The expression shown below represents the total amount of money, in dollars, Bella spent at Yard Depot.

$$a(by + c)$$

C. Explain what *a*, *b*, and *c* each mean in terms of the situation.

"a" represents how many times she went to Yard Depot.

"b" represents how many pairs of gloves she bought.

"c" represents how many gardening hats she bought.

73. Bella bought gardening materials from different stores.

> At Garden Mart, Bella bought *g* packets of geranium seeds, *m* packets of marigold seeds, and *z* packets of zinnia seeds. All of the plant seeds were on sale for half price. The expression shown below represents the total cost of the plant seeds Bella bought.
>
> $$\frac{1}{2}(2.48g + 1.74m + 1.96z)$$
>
> A. Write an expression without parentheses that also represents Bella's total cost at Garden Mart.

$$\frac{1}{2}(2.48 + 1.740 + 1.960)$$

add all togher and

get $\underline{\$6.18}$ Dollars

$$\frac{1}{2}2.48 + 1.74 + 1.96)\text{ add}$$

> At Plant World, Bella bought a hose and a shovel. The hose was priced at $29.68, but Bella had a coupon for *x* dollars off. The price of the shovel was $14.45.
>
> B. Write an expression to represent how much money, in dollars, Bella spent at Plant World.

$$
\begin{array}{r}
15.23 \leftarrow \text{coupon she gave} \\
+\ 14.45 \leftarrow \text{she had} \\
\hline
29.68 \quad \text{before the coupon}
\end{array}
$$

The Coupon Was 15.23 Dollars off when she bought the shovel.

73. *Continued.* Please refer to the previous page for task explanation.

Bella went to Yard Depot multiple times. Each time she was there, Bella bought a gardening hat and *y* pairs of gardening gloves. The expression shown below represents the total amount of money, in dollars, Bella spent at Yard Depot.

$$a(by + c)$$

C. Explain what *a*, *b*, and *c* each mean in terms of the situation.

Ⓐ means the Fraction

Ⓑⓨ means the numbers you add

Ⓒ mean the other number you add like the by number.