PSSA and Keystone Exams
Summer 2023 Workshops

Keystone Algebra 1

Baskets of Tomatoes

Handscoring
Training Set 2

T2-1

Small baskets of tomatoes are sold at a vegetable stand for $3 per basket. Large baskets of tomatoes are sold at the stand for $5 per basket. Only whole numbers of baskets may be purchased.

A customer purchases a total of 8 baskets of tomatoes and pays $36.

A. Write and solve a system of equations that models the number of small baskets (x) and the number of large baskets (y) that the customer purchases. Show or explain all your work.

The equation of 8 basktes totaling $36 would be six $5 baskets which equals $30 and two $3 baskets which equals 6. $30+$6= $36 and 6 baskets + 2 baskets= 8 baskets

163 / 1000

Another customer claims that he can purchase a total of 10 baskets of tomatoes and pay $45.

B. Use a system of equations that describes this other customer's purchase to explain why the claim is incorrect.

10b is supposed to be equal to $45. There is supposed to be exactly 10 baskets that will equal exactly $45.

107 / 1000

16. Small baskets of tomatoes are sold at a vegetable stand for $3 per basket. Large baskets of tomatoes are sold at the stand for $5 per basket. Only whole numbers of baskets may be purchased.

A customer purchases a total of 8 baskets of tomatoes and pays $36.

A. Write and solve a system of equations that models the number of small baskets (x) and the number of large baskets (y) that the customer purchases. Show or explain all your work.

small baskets

XXXXXXXXXXXXXXXXXXXXXXXX 24

large number

YYYYYYYYYYY 11

24+11=36

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

Another customer claims that he can purchase a total of 10 baskets of tomatoes and pay $45.

B. Use a system of equations that describes this other customer's purchase to explain why the claim is incorrect.

The whole purchase is $5 to get a large baskets of tomatoes.

45 X 5 = 50

He wouldn't have enough money.

16. Small baskets of tomatoes are sold at a vegetable stand for $3 per basket. Large baskets of tomatoes are sold at the stand for $5 per basket. Only whole numbers of baskets may be purchased.

A customer purchases a total of 8 baskets of tomatoes and pays $36.

A. Write and solve a system of equations that models the number of small baskets (x) and the number of large baskets (y) that the customer purchases. Show or explain all your work.

$3(x) + 5(y) = 36$

$3(2) + 5(6) = 36$ 2 small baskets and 6 large baskets

I did guess and check and these two numbers worked out perfect for this equation.

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

Another customer claims that he can purchase a total of 10 baskets of tomatoes and pay $45.

B. Use a system of equations that describes this other customer's purchase to explain why the claim is incorrect.

$8x = 45$
$8(5) = 45$

$5 is the most money that a basket costs and you can only buy 8, and he wants 10. If you use the $ and $5 it still doesn't work.

Small baskets of tomatoes are sold at a vegetable stand for $3 per basket. Large baskets of tomatoes are sold at the stand for $5 per basket. Only whole numbers of baskets may be purchased.

A customer purchases a total of 8 baskets of tomatoes and pays $36.

A. Write and solve a system of equations that models the number of small baskets (x) and the number of large baskets (y) that the customer purchases. Show or explain all your work.

x +y = 36The customer purchased 2 small baskets and 6 large baskets. 2 small baskets equals $6 and 6 large baskets equal $30 giving that customer their total of $36.

166 / 1000

Another customer claims that he can purchase a total of 10 baskets of tomatoes and pay $45.

B. Use a system of equations that describes this other customer's purchase to explain why the claim is incorrect.

x + y = 45
There is no arrangement of baskets to get a total of 10 baskets to equal $45.

16. **Small baskets of tomatoes are sold at a vegetable stand for $3 per basket. Large baskets of tomatoes are sold at the stand for $5 per basket. Only whole numbers of baskets may be purchased.**

A customer purchases a total of 8 baskets of tomatoes and pays $36.

A. Write and solve a system of equations that models the number of small baskets (x) and the number of large baskets (y) that the customer purchases. Show or explain all your work.

x = small baskets
y = large baskets

$$1x + 1y = 8$$
$$= \$36$$

x = 2
y = 6

By using equation solver on my calculator, I plugged in my equations and got x=2 and y=6.

Answer: x = 2
y = 6

The customer bought 2 small baskets and 6 large ones

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

Another customer claims that he can purchase a total of 10 baskets of tomatoes and pay $45.

B. Use a system of equations that describes this other customer's purchase to explain why the claim is incorrect.

$3x + 5y = 45$
$1x + 1y = 10$ $=$ $x = 2.5$, $y = 7.5$

This customer is incorrect because in Part A it stated that ONLY whole numbers of baskets may be purchased.

16. **Small baskets of tomatoes are sold at a vegetable stand for $3 per basket. Large baskets of tomatoes are sold at the stand for $5 per basket. Only whole numbers of baskets may be purchased.**

A customer purchases a total of 8 baskets of tomatoes and pays $36.

A. Write and solve a system of equations that models the number of small baskets (x) and the number of large baskets (y) that the customer purchases. Show or explain all your work.

x = small baskets
y = large baskets

$3x + 5y = 36$
$x + y = 8$

$x + y = 8$
$x = 8 - y$

$3x + 5y = 36$
$3(8-y) + 5y = 36$
$24 - 3y + 5y = 36$
$24 + 2y = 36$
$2y = 12$
$y = 6$

$x + y = 8$
$x + 6 = 8$
$x = 2$

The customer bought 2 small baskets of tomatoes and 6 large baskets of tomatoes.

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

Another customer claims that he can purchase a total of 10 baskets of tomatoes and pay $45.

B. Use a system of equations that describes this other customer's purchase to explain why the claim is incorrect.

$x + y = 10$
$3x + 5y = 45$

$x = 10 - y$
$3(10 - y) + 5y = 45$
$30 - 3y + 5y = 45$
$30 + 2y = 45$
$2y = 15$
$y = 7.5$

$x + 7.5 = 10$
$x = 2.5$

This other customer's claim is incorrect because in order for it to be true, he would have had to buy 2.5 small baskets of tomatoes and 7.5 large baskets of tomatoes. However, this is not possible because only whole numbers of baskets may be purchased. As a result, this other customer's claim is incorrect.

16. **Small baskets of tomatoes are sold at a vegetable stand for $3 per basket. Large baskets of tomatoes are sold at the stand for $5 per basket. Only whole numbers of baskets may be purchased.**

A customer purchases a total of 8 baskets of tomatoes and pays $36.

A. Write and solve a system of equations that models the number of small baskets (x) and the number of large baskets (y) that the customer purchases. Show or explain all your work.

$36 = 3s + 5l$

$8 = s + l \rightarrow 24 = 3s + 3l$ $\quad 8 = s + 6$ $\quad -6$

$12 = 2l$ $\quad 2 = s$

$6 = l$

The customer can buy 6 large baskets of tomatoes and 2 small baskets.

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

Another customer claims that he can purchase a total of 10 baskets of tomatoes and pay $45.

B. Use a system of equations that describes this other customer's purchase to explain why the claim is incorrect.

$45 = 3s + 5l$

$10 = s + l \rightarrow 30 = 3s + 3l$

$15 = 2l$

$7.5 = l$

$10 = s + 7.5$

$-7.5 \quad -7.5$

$2.5 = s$

The system of equations does prove that the customer could have bought 7.5 large baskets and 2.5 small baskets, but only whole numbers of baskets may be purchased making that claim incorrect.

Small baskets of tomatoes are sold at a vegetable stand for $3 per basket. Large baskets of tomatoes are sold at the stand for $5 per basket. Only whole numbers of baskets may be purchased.

A customer purchases a total of 8 baskets of tomatoes and pays $36.

A. Write and solve a system of equations that models the number of small baskets (x) and the number of large baskets (y) that the customer purchases. Show or explain all your work.

3x+5y=36

3x=36

/3 /3

x=12

5y=36

/5 /5

y=7.1

117 / 1000

Another customer claims that he can purchase a total of 10 baskets of tomatoes and pay $45.

B. Use a system of equations that describes this other customer's purchase to explain why the claim is incorrect.

3x=5y=45

3x=45

/3 /3

x=15

5y=45

/5 /5

5y=9

3x15+5x9=105

66 / 1000

16. **Small baskets of tomatoes are sold at a vegetable stand for $3 per basket. Large baskets of tomatoes are sold at the stand for $5 per basket. Only whole numbers of baskets may be purchased.**

A customer purchases a total of 8 baskets of tomatoes and pays $36.

A. Write and solve a system of equations that models the number of small baskets (x) and the number of large baskets (y) that the customer purchases. Show or explain all your work.

$3x + 5y = 36$
$x + y = 8$
$y = 8 - x$
$3x + 5(8-x) = 36$
$3x + 40 - 5x = 36$
$-2x = -4$
$x = 2$
$3(2) + 5y = 36$
$6 + 5y = 36$
$5y = 30$
$y = 6$

2 small baskets and 6 large baskets were purchased. The customers purchase equaled $36 and $x = 3$ and $y = 5$; $x + y = 8$ which is the total amount of baskets she purchased.

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

Another customer claims that he can purchase a total of 10 baskets of tomatoes and pay $45.

B. Use a system of equations that describes this other customer's purchase to explain why the claim is incorrect.

$10 = x + y$

$45 = 3x + 5y$

$x = 10 - y$

$45 = 3(10 - y) + 5y$

$45 = 30 - 3y + 5y$

$45 = 30 + 2y$

$15 = 2y$

$7.5 = y$

This is not correct because a Costumer can not take half a basket, only a whole.

T2-10

Small baskets of tomatoes are sold at a vegetable stand for $3 per basket. Large baskets of tomatoes are sold at the stand for $5 per basket. Only whole numbers of baskets may be purchased.

A customer purchases a total of 8 baskets of tomatoes and pays $36.

A. Write and solve a system of equations that models the number of small baskets (x) and the number of large baskets (y) that the customer purchases. Show or explain all your work.

36 = 3x+5y x+y = 8
36 = 3(2)+5(6) (2)+(6)=8
36= 6+30 8=8
36=36 x=2;y=6
(2,6)
The costumer bought two small baskets, and six large baskets.

151 / 1000

Another customer claims that he can purchase a total of 10 baskets of tomatoes and pay $45.

B. Use a system of equations that describes this other customer's purchase to explain why the claim is incorrect.

45 = 3x+5y x+y= 10 45 = 3x+5y x+y= 10
As you can see this customer

45 = 3(5)+5(9) (5)+(9)=10 45 = 3(5)+5(15) 5+15= 10
is incorrect. No matter what
45= 15+45 14 doesn't =10 45 = 15+75 20 doesn't = 10
numbers you put in for x and y
45 doesn't = 60 45 doesn't = 90
you will never be able to pay
$45 for any combination of 10
baskets.

983 / 1000

Keystone: Baskets of Tomatoes (Algebra 1), Training Set Two

Subject: Algebra 1 Item: Baskets of Tomatoes Grade: HS

Name _____

Number	Score	Notes
T2-1		
T2-2		
T2-3		
T2-4		
T2-5		
T2-6		
T2-7		
T2-8		
T2-9		
T2-10		