PSSA and Keystone Exams
Summer 2023 Workshops

Keystone Algebra

Baskets of Tomatoes

Handscoring

Practice Set 1*

*Responses in this set do not have true scores. Apply scores based on scoring criteria.

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 = 2 y = 6

3 dollars times 2
Plus 5 dollars times
6 equals 36 dollars

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 claim is incorrect Because you can only Buy ~~Baskets~~ a whole number of Baskets. If you Buy 3 small Baskets and 7 large Baskets it costs 44 dollars, and If you Buy 2 small Baskets and 8 large Baskets it costs 46 dollars therefore you cannot Buy Baskets of tomatoes for 45 dollars.

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.

System= $x+y=8$

$3x+5y=36$

Solution= (2, 6)

The customer purchases 2 small baskets and 6 large baskets.

$x+y=8$

$-y \quad -y$

$x=8-y$

$3(8-y)+5y=36$

$24-3y+5y=36$

$24+2y=36$

$-24 \quad -24$

$2y=12$

$\frac{2y}{2}=\frac{12}{2}$

$y=6$

$x+6=8$

$-6 \quad -6$

$x=2$

(2, 6)

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.

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

$$x+y=10$$
$$-y \quad -y$$
$$x=10-y$$
$$3(10-y)+5y=45$$
$$30-3y+5y=45$$
$$30+2y=45$$
$$-30 \quad -30$$
$$\frac{2y}{2}=\frac{15}{2}$$
$$x=7.5$$

The claim is incorrect because if you solve the system of equations the number of large baskets is 7.5. This is wrong because only whole numbers of baskets may be purchased.

Keystone: Baskets of Tomatoes (Algebra 1); Practice Set 1

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.

they get 8 baskets to put stuff in it.

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.

they pay $50 for 10 baskets

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.

$x+y=8$

$3x+5y=36$

$x+y=8$

$-x \quad -x$

$y=-x+8$

$3x+5(-x+8)=36$

$3x+-5x+40=36$

$-2x+40=36$

$-40 \quad -40$

$-2x=-4$

$\frac{-2x}{-2}=\frac{-4}{-2}$

$x=2$

$2+y=8$

$-2 \quad -2$

$y=6$

2 small
6 large

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.

$x + y = 10$

$3x + 5y = 45$

$x + y = 10$

$-x \quad -x$

$y = -x + 10$

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

$3x + -5x + 50 = 45$

$-2x + 50 = 45$

$-50 \quad -50$

$\frac{-2x}{-2} = \frac{5}{-2}$

$x = 2.5$

I does not work because you cannot have a partial basket as shown in $x = 2.5$.

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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.

$S + L = 8$

$\$3S + \$5L = \$36$

$3(2) + 5(6) = 36$

$6 + 30 = 36$

$36 = 36$

options = (1, 7) (2, 6) (3, 5) (4, 4)

Large = 6
Small = 2

I guess and checked for 2 numbers that added to 8 and when multiplied by the prices of small and large baskets equaled #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.

$-3(S + L = 10)$

$3S + 5L = \$45$

$-3S - 3L = -30$

$2L = 15$

this customers claim is not correct because when you set the equations equal to one another it says that a Large Baskets would equal $15, when it should only equal $10.

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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.

* 8 baskets = 36 dollars
* small baskets = 3
  large baskets = 5

1, 7 = 3+35=38
2, 6 = 6+30=36
3, 5
4, 4
5, 3
6, 2
7, 1

The customer payed for a small baskets and 6 large ones

$3(x)+5(4)=36$

$3(x)+5(4)=36$

$3(2)+5(6)=36$

$6+30=36$

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.

It is an even number of baskets so he can't have an odd amount.

1 small + 9 large = 48
2 small + 8 large = 46
3 small + 7 large = 44
4 small + 6 large 42
5 small + 5 large = 40
6 small + 4 large = 38
7 small + 3 large = 36
8 small + 2 large = 34
9 small + 1 large = 32
10 small + 0 large = 30

2 small, 8 large

↓

$2(x) + 5(4) = 45$

$3(2) + 5(8) = 46$

3 small, 7 large

↓

$3(x) + 5(4) = 45$

$3(3) + 5(7) = 44$

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

16 / 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.

$x + y = 10$ $\$3x + \$5y = \$45$ The claim on the amount of 10 baskets for $45 dollars is wrong because, the amounts will never add up to be exactly $45 dollars. It will be either a few dollars over or a few dollars under the amount of $45. For example if you put 5 in for x and 5 in for y yes it will equal 10 baskets but the total amount of money the customer will pay is $40 which is $5 under the amount the original total came to.

418 / 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 = 3$
Large baskets = 5$
total of 36

[redacted]

36-15=26

(12, 0)

12x3=36 small baskets and bought no Large baskets

9x3=27 +

4x5=26

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.

Its $y = 5x$

$y = 10$ baskets

$5 \times 6 = 30$ plus 15 equals $45 he spent on the baskets

6 large baskets plus 5 small baskets gets you the total number of money the customer spent on tomato baskets.

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= b(3)
y= b(5)

x= 2(3)
y= 6(5)

If the consumer buys 2 small baskets, the cost will only be $6. If the consumer also buys 6 big baskets, the cost will be $30, adding up to $36.

179 / 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= 3(3)
y= 7(5)
This only adds up to $44 dollars. There is no other solution of finding how a consumer can buy 10 baskets for $45. This system is the obly one that is close enough.

184 / 1000

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.

t= total amount paid
3(x)+5(y)=t

32 / 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.

The reason he can not buy 10 baskets of tomatoes is because if he would try to do that it would either go over the $45 amount or it would be too many small baskets in which he claimed he only bought 10 baskets.

210 / 1000

PRACTICE SET 1*

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

Name_____

Number	Score	Consensus	Notes
P1-1			
P1-2			
P1-3			
P1-4			
P1-5			
P1-6			
P1-7			
P1-8			
P1-9			
P1-10			

*** Responses in this set do not have true scores. Apply scores based on scoring criteria.**