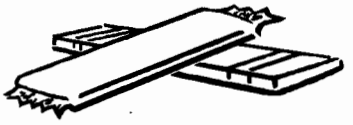
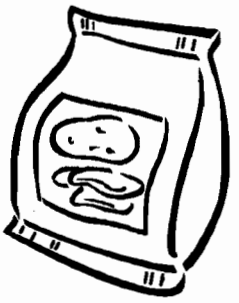
Buying Chips and Candy

T1

This problem gives you the chance to:
• form and solve a pair of linear equations in a practical situation

Ralph and Jody go to the shop to buy potato chips and candy bars.





Ralph buys 3 bags of potato chips and 4 candy bars. He spends $3.75.

Jody buys 4 bags of potato chips and 2 candy bars. She spends $3.00.

Later Clancy joins Ralph and Jody and asks to buy one bag of potato chips and one candy bar from them. They need to work out how much he should pay.

Ralph writes $\mathbf{3}\boldsymbol{p} + \mathbf{4}\boldsymbol{b} = \mathbf{375}$

1. If $\boldsymbol{p}$ stands for the cost, in cents, of a bag of potato chips and $\boldsymbol{b}$ stands for the cost, in cents, of a candy bar, what does the 375 in Ralph's equation mean?

it means the dollar amount with no decimal, the penny amount ✓ 1

2. Write a similar equation, using $\boldsymbol{p}$ and $\boldsymbol{b}$, for the items Jody bought.

$4p+2b=300$ ✓ 2

T1

3. Use the two equations to figure out the price of a bag of potato chips and the price of a candy bar.

potato chips .45¢ ×

candy bar .60¢ ×

Show your work. 0

$-\frac{4}{3}$ $3p+4b=375$
-2 $4p+2b=300$

$3p+4b=375$
$-8p-4b=-600$
$-5p=-225$
$\frac{-5p}{-5}=\frac{-225}{-5}$
$p=45$

$-4p-\frac{16}{3}b=-500$
$4p+2b=300$
$\frac{-10}{3}b=-200$
$\frac{-\frac{10}{3}b}{-\frac{10}{3}}=\frac{-200}{-\frac{10}{3}}$

✓ 2

4. Clancy has just $1. Does he have enough money to buy a bag of potato chips and a candy bar?

no

Explain your answer by showing your calculation.

because .45+.60=1.05 he's 5 cents over ✓ 1

6

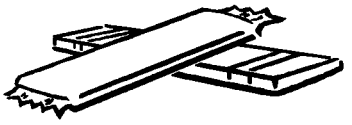
Buying Chips and Candy

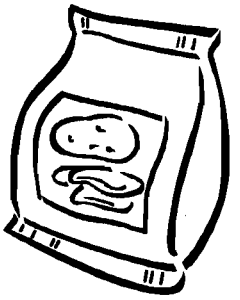
T2

This problem gives you the chance to:

- form and solve a pair of linear equations in a practical situation

Ralph and Jody go to the shop to buy potato chips and candy bars.





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Later Clancy joins Ralph and Jody and asks to buy one bag of potato chips and one candy bar from them. They need to work out how much he should pay.

Ralph writes $\quad 3p + 4b = 375$

1. If p stands for the cost, in cents, of a bag of potato chips and b stands for the cost, in cents, of a candy bar, what does the 375 in Ralph's equation mean?

It is how much he spent, in cents, in candy bars and chips. ✓ 1

2. Write a similar equation, using p and b, for the items Jody bought.

$4p+2b=300$ ✓ 2

T2

3. Use the two equations to figure out the price of a bag of potato chips and the price of a candy bar.

potato chips .50 x

candy bar .40 x 0

Show your work.

$4p + 2b = 300$

$\frac{4p}{4} + b = \frac{150}{4}$

$p + b = 38$

$\frac{4p + 2b = 300}{2}$

$\frac{2p}{2} + b = \frac{150}{2}$

$p + b = 75$

150

$\frac{3p}{3} + 4b = \frac{375}{3}$

$p + \frac{4b}{4} = \frac{125}{4}$

$p + b = 31.25$

x 0

$p = 50$

$b = 25$

$p = 40 \; 50$

$b = 40 \; 40$

4. Clancy has just $1. Does he have enough money to buy a bag of potato chips and a candy bar?

yes

Explain your answer by showing your calculation.

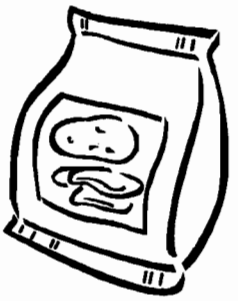
b/c it adds up to $90 ✓ 1ft

Buying Chips and Candy

This problem gives you the chance to:
• form and solve a pair of linear equations in a practical situation

T3

Ralph and Jody go to the shop to buy potato chips and candy bars.



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Later Clancy joins Ralph and Jody and asks to buy one bag of potato chips and one candy bar from them. They need to work out how much he should pay.

Ralph writes $3p + 4b = 375$

1. If p stands for the cost, in cents, of a bag of potato chips and b stands for the cost, in cents, of a candy bar, what does the 375 in Ralph's equation mean?

375 is the total # of cents Ralph spent on his candybars and potato chips. ✓ 1

2. Write a similar equation, using p and b, for the items Jody bought.

$4p + 2b = 300$ ✓ 2

p = cost in cents of the potato chips
b = cost in cents of the candy bars

T3

3. Use the two equations to figure out the price of a bag of potato chips and the price of a candy bar.

potato chips .45¢ x

candy bar .60¢ x 0

Show your work. Pc CB

Ralph - 3 4 - 3.75

Jody - 4 2 - 3.00

7 6 6.75

45 × 3 = 135

2.40

.519230

13 | 6.75

65

25

13

120

117

30

26

40

39

1

100

.52 cents apiece

75 × 4 = 300

.45 × 7 = 315

.60

6 | 3.60

.45

.60 ^

0

4. Clancy has just $1. Does he have enough money to buy a bag of potato chips and a candy bar?

No

Explain your answer by showing your calculation.

for one of each it would be .60¢ + .45¢ = $1.05 so it would be over $1.00 which would mean he wouldn't have enough money. ✓ 1

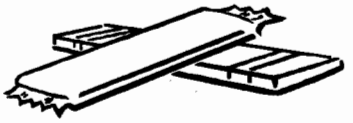
4

Buying Chips and Candy

This problem gives you the chance to:
• form and solve a pair of linear equations in a practical situation

T4

Ralph and Jody go to the shop to buy potato chips and candy bars.



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Later Clancy joins Ralph and Jody and asks to buy one bag of potato chips and one candy bar from them. They need to work out how much he should pay.

Ralph writes $\mathbf{3p + 4b = 375}$

1. If $\boldsymbol{p}$ stands for the cost, in cents, of a bag of potato chips and $\boldsymbol{b}$ stands for the cost, in cents, of a candy bar, what does the 375 in Ralph's equation mean?

375 is the answer in ralphs equation. ^ 0

2. Write a similar equation, using $\boldsymbol{p}$ and $\boldsymbol{b}$, for the items Jody bought.

$4P+2B=300$ ✓ 2

$4P=300-2b$

T4

3. Use the two equations to figure out the price of a bag of potato chips and the price of a candy bar.

potato chips .75 x

candy bar 1.50 x 0

Show your work.

$\frac{4p}{4} = \frac{26 - 300}{4}$ ^ 0

$p = 75$

4. Clancy has just $1. Does he have enough money to buy a bag of potato chips and a candy bar?

Explain your answer by showing your calculation.

No because a candy bar alone cost 1.50. ✓ 1ft

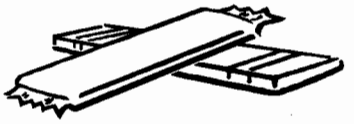
3

Buying Chips and Candy

T5

This problem gives you the chance to:
- form and solve a pair of linear equations in a practical situation

Ralph and Jody go to the shop to buy potato chips and candy bars.



Ralph buys 3 bags of potato chips and 4 candy bars. He spends \$3.75. $3p + 4b = 3.75$

Jody buys 4 bags of potato chips and 2 candy bars. She spends \$3.00. $4p + 2b = 300$

Later Clancy joins Ralph and Jody and asks to buy one bag of potato chips and one candy bar from them. They need to work out how much he should pay.

Ralph writes **$3p + 4b = 375$**

1. If ***p*** stands for the cost, in cents, of a bag of potato chips and ***b*** stands for the cost, in cents, of a candy bar, what does the 375 in Ralph's equation mean? the total amount of money paid

$3p + 4b = 375$

$4p + 2b = 300$ $\times(-2)$

$-8p - 4b = -600$

$-5p = -225$

$p = 45$

$3(45) + 4b = 375$

$135 + 4b = 375$

$4b = 240$

$b = 60$

2. Write a similar equation, using ***p*** and ***b***, for the items Jody bought.

$4p + 2b = 300$ ✓ 2

T5

3. Use the two equations to figure out the price of a bag of potato chips and the price of a candy bar.

potato chips 45 ^

candy bar 60 ^ 0

Show your work.

$3p + 4b = 375$

$4p + 2b = 300 \quad \times(-2)$

$-8p - 4b = -600$

$-5p = -225$

$p = 45$ ✓ 2

$3(45) + 4b = 375$

$135 + 4b = 375$

$4b = 240$

$b = 60$

4. Clancy has just $1. Does he have enough money to buy a bag of potato chips and a candy bar?

No

Explain your answer by showing your calculation.

a bag of chips + a candy bar = 105

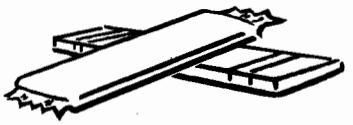
$60 + 45 \neq 100$ ✓ 1

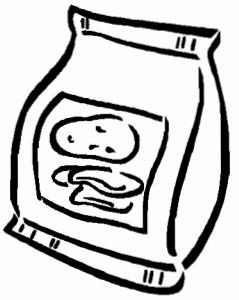
Buying Chips and Candy

This problem gives you the chance to:
• form and solve a pair of linear equations in a practical situation

S1

Ralph and Jody go to the shop to buy potato chips and candy bars.





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1. If $\boldsymbol{p}$ stands for the cost, in cents, of a bag of potato chips and $\boldsymbol{b}$ stands for the cost, in cents, of a candy bar, what does the 375 in Ralph's equation mean?

$375 is the total amount of money he spent, on 3 bags of potato chips, and 4 candy bars. ^ O

2. Write a similar equation, using $\boldsymbol{p}$ and $\boldsymbol{b}$, for the items Jody bought.

4p + 2b = $3.00 (1)

3. Use the two equations to figure out the price of a bag of potato chips and the price of a candy bar.

potato chips 45¢ ✓

candy bar 60¢ ✓ 1

Show your work.

$3p + 4b = 375$ $4p + 2b = 300$

$3x + 4y = 375$
$-(2)4x + 2y = 300$

$3x + 4y = 375$
$(-3/4)4x + 2y = 300$

$3x + 4y = 375$
$-3x + -1.5y = -225$
$2.5y = 150$
$\frac{2.5}{2.5}y = \frac{150}{2.5}$ $y = \boxed{60}$

$3x + 4y = 375$
$-8x + -4y = -600$
$-5x = -225$
$\frac{-5x}{-5} = \frac{-225}{-5}$
$x = \boxed{.45}$

2 ✓

4. Clancy has just $1. Does he have enough money to buy a bag of potato chips and a candy bar?

Explain your answer by showing your calculation.

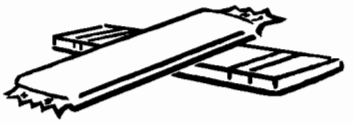
He doesn't have enough because 45¢ + 60¢ is $1.05, and there may also be tax. ✓ 1

Buying Chips and Candy

S2

This problem gives you the chance to:
• form and solve a pair of linear equations in a practical situation

Ralph and Jody go to the shop to buy potato chips and candy bars.



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Ralph writes $\mathbf{3}\boldsymbol{p} + \mathbf{4}\boldsymbol{b} = \mathbf{375}$

1. If $\boldsymbol{p}$ stands for the cost, in cents, of a bag of potato chips and $\boldsymbol{b}$ stands for the cost, in cents, of a candy bar, what does the 375 in Ralph's equation mean?

The total cost of his products, x by 100 - no fractions ✓ 1

2. Write a similar equation, using $\boldsymbol{p}$ and $\boldsymbol{b}$, for the items Jody bought.

$4p + 2b = 300$ ✓ 2

S2

3. Use the two equations to figure out the price of a bag of potato chips and the price of a candy bar.

potato chips $45 ✓

candy bar 52 × 0

Show your work.

$3p + 4p = 375$

$-(2)4p + 2b = 300(2)$

$3p + 4b = 375$

$-8p - 4b = -600$

$-5p = -225$

$p = 45$ ✓ (1)

^

4. Clancy has just $1. Does he have enough money to buy a bag of potato chips and a candy bar?

No

Explain your answer by showing your calculation.

She only has one dollar

$1.02 ✓ 1ft

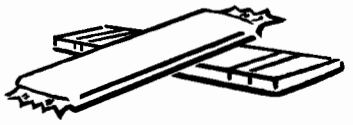
5

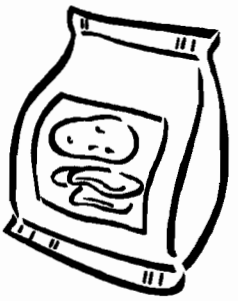
Buying Chips and Candy

This problem gives you the chance to:
• form and solve a pair of linear equations in a practical situation

S3

Ralph and Jody go to the shop to buy potato chips and candy bars.





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Ralph writes $\mathbf{3p + 4b = 375}$

1. If $\boldsymbol{p}$ stands for the cost, in cents, of a bag of potato chips and $\boldsymbol{b}$ stands for the cost, in cents, of a candy bar, what does the 375 in Ralph's equation mean?

It's the total cost.

0

2. Write a similar equation, using $\boldsymbol{p}$ and $\boldsymbol{b}$, for the items Jody bought.

$4p+2b=300$ ✓ 2

3. Use the two equations to figure out the price of a bag of potato chips and the price of a candy bar.

potato chips 45 cents ✓

candy bar 60 cents ✓ 1

Show your work.

$3p+4b=375$

$(4p+2b=300)2$

$-\ 3p+4b=375$

$8p+4b=600$

$5p=225$

$p=45$

$3(45)+4b=375$

$135+4b=375$

$4b=240$

$b=60$ ✓ 2

4. Clancy has just $1. Does he have enough money to buy a bag of potato chips and a candy bar?

No

Explain your answer by showing your calculation.

$100 < 60+45$

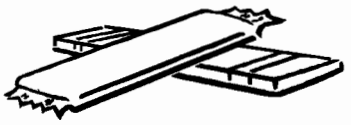
$100 < 105$ ✓ 1

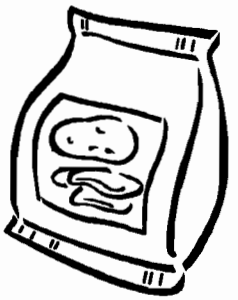
Buying Chips and Candy

This problem gives you the chance to:
• form and solve a pair of linear equations in a practical situation

S4

Ralph and Jody go to the shop to buy potato chips and candy bars.





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Ralph writes $\quad 3p + 4b = 375$

1. If p stands for the cost, in cents, of a bag of potato chips and b stands for the cost, in cents, of a candy bar, what does the 375 in Ralph's equation mean?

375 mean $3.75, you just take the decimal because it's easier ✓ 1

2. Write a similar equation, using p and b, for the items Jody bought.

$4p + 2b = 300$ ✓ 2

S4

3. Use the two equations to figure out the price of a bag of potato chips and the price of a candy bar.

potato chips 0.45¢ ×

candy bar 0.60¢ × 0

Show your work.

$3p + \frac{4b}{4} = \frac{375}{4}$

$3p + b = 93.75$

$4p + 2b = 300$

180
120
135

$3p + 4b = 375$ ✓ $\frac{240}{4}$

$-2(4p + 2b = 300)$

$3p + 4b = 375$

$-8p - 4b = -600$ ✓

$-5p = 225$

2

4. Clancy has just $1. Does he have enough money to buy a bag of potato chips and a candy bar?

No

Explain your answer by showing your calculation.

A bag of chips is .45¢ and a candy bar cost .60¢ so the total will be $1.05 ✓ 1

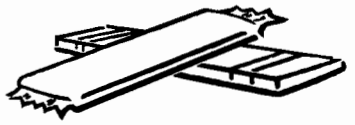
6

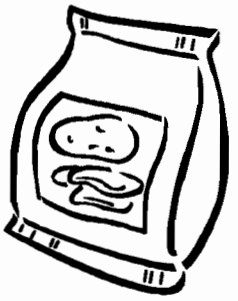
Buying Chips and Candy

This problem gives you the chance to:
• form and solve a pair of linear equations in a practical situation

S5

Ralph and Jody go to the shop to buy potato chips and candy bars.





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Ralph writes $\mathbf{3}p + \mathbf{4}b = \mathbf{375}$

1. If p stands for the cost, in cents, of a bag of potato chips and b stands for the cost, in cents, of a candy bar, what does the 375 in Ralph's equation mean?

375 is the amount of money that Ralph spent on food.

^ 0

2. Write a similar equation, using p and b, for the items Jody bought.

y = 3p+4b-375 x 0

y = 3p+4b - 375

S5

3. Use the two equations to figure out the price of a bag of potato chips and the price of a candy bar.

potato chips 1.25 ×

candy bar .93 ×

0

Show your work.

$\$P = \frac{375}{3}$

1.25

$\frac{4b}{4} = \frac{375}{4}$

$b = .93.85$

$.93\frac{1}{4}$

$3p + 4 = 385$

0

4. Clancy has just $1. Does he have enough money to buy a bag of potato chips and a candy bar?

No

Explain your answer by showing your calculation.

Because potato chips cos 1.25 therefor she doesn't have enough money to buy that but she can ✓ buy a candy bar.

1ft

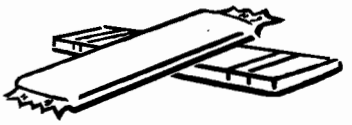
(1)

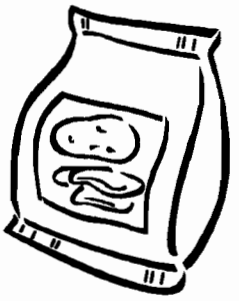
Buying Chips and Candy

This problem gives you the chance to:
• form and solve a pair of linear equations in a practical situation

S6

Ralph and Jody go to the shop to buy potato chips and candy bars.





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1. If p stands for the cost, in cents, of a bag of potato chips and b stands for the cost, in cents, of a candy bar, what does the 375 in Ralph's equation mean?

375 is the amount in cets he spent on both potato chips and candy bars combine. ✓ 1

2. Write a similar equation, using p and b, for the items Jody bought.

p4+b2=300 ✓ 2

S6

3. Use the two equations to figure out the price of a bag of potato chips and the price of a candy bar.

potato chips .75 <

candy bar .25 × 0

Show your work.

3.75 + 3.00

6.75

.75 | 7 | 6 .25

5.25 | 1.50

6.75

0

4. Clancy has just $1. Does he have enough money to buy a bag of potato chips and a candy bar?

yes

Explain your answer by showing your calculation.

he has just enough for each because .75 + .25 = $1 ✓ 1ft

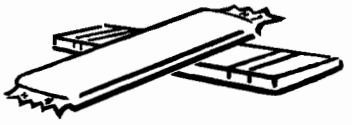
4

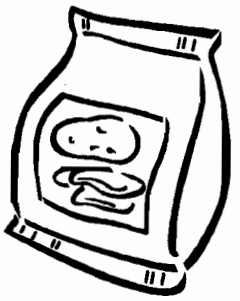
Buying Chips and Candy

This problem gives you the chance to:
• form and solve a pair of linear equations in a practical situation

S7

Ralph and Jody go to the shop to buy potato chips and candy bars.





2c - 4b $2.00
4c - 3b $3.75

Ralph buys 3 bags of potato chips and 4 candy bars. He spends $3.75.

Jody buys 4 bags of potato chips and 2 candy bars. She spends $3.00.

Later Clancy joins Ralph and Jody and asks to buy one bag of potato chips and one candy bar from them. They need to work out how much he should pay.

Ralph writes **$3p + 4b = 375$**

1. If ***p*** stands for the cost, in cents, of a bag of potato chips and ***b*** stands for the cost, in cents, of a candy bar, what does the 375 in Ralph's equation mean?

the cost of all the items total. ^ O

2. Write a similar equation, using ***p*** and ***b***, for the items Jody bought.

4p ✓ + 2b ✓ = 200 ✗ (1)

S7

3. Use the two equations to figure out the price of a bag of potato chips and the price of a candy bar.

potato chips $.05 ✓

candy bar $.90 ✓ 1ft

Show your work.

$3p + 4b = 375$

$4p + 2b = 200$ (·2)

$3p + 4b = 375$

$-8p - 4b = -400$

$\frac{-5p}{-5} = \frac{-25}{-5}$ ✓

$p = 5$

$3(5) + 4b = 375$

$15 + 4b = 375$

$-15 \quad -15$

$\frac{4b}{4} = \frac{360}{4}$ ✓ 2ft

$b = 90$

4. Clancy has just $1. Does he have enough money to buy a bag of potato chips and a candy bar?

$.90 + .5 \Rightarrow \$.95$

yes

Explain your answer by showing your calculation.

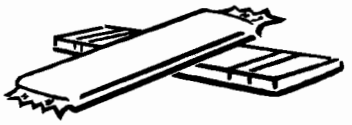
$1(.90) + 1(.05) = \$.95$ ✓ 1ft

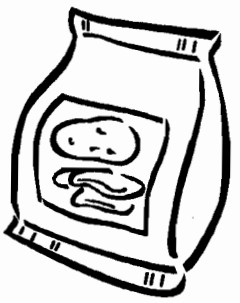
Buying Chips and Candy

This problem gives you the chance to:
• form and solve a pair of linear equations in a practical situation

S8

Ralph and Jody go to the shop to buy potato chips and candy bars.





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Later Clancy joins Ralph and Jody and asks to buy one bag of potato chips and one candy bar from them. They need to work out how much he should pay.

Ralph writes $\mathbf{3}p + \mathbf{4}b = \mathbf{375}$

1. If p stands for the cost, in cents, of a bag of potato chips and b stands for the cost, in cents, of a candy bar, what does the 375 in Ralph's equation mean?

the total amount of $ he buing spent. ✗ 0

2. Write a similar equation, using p and b, for the items Jody bought.

$4p + 2b = 300$ ✓ 2

3. Use the two equations to figure out the price of a bag of potato chips and the price of a candy bar.

potato chips 45¢ (Lays) fw

candy bar 60¢ 0

Show your work.

$3p+4b=375$

$-2(4p+2b=300)$

$3p+4b=375$

$-8p-4b=-600$

$-5p=-225$

$p=45$

$3(45)+4b=375$

$135+4b=375$

$4b=240$

$b=60.$

✓ 2

4. Clancy has just $1. Does he have enough money to buy a bag of potato chips and a candy bar?

no.

✓

Explain your answer by showing your calculation.

$.60+.45=1.05>1.00$ 1

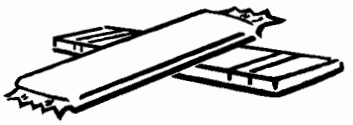
5

Buying Chips and Candy

S9

This problem gives you the chance to:
- form and solve a pair of linear equations in a practical situation

Ralph and Jody go to the shop to buy potato chips and candy bars.



Ralph buys 3 bags of potato chips and 4 candy bars. He spends $3.75.

$3p + 4c = 3.75$

Jody buys 4 bags of potato chips and 2 candy bars. She spends $3.00.

$4p + 2c = 300$

Later Clancy joins Ralph and Jody and asks to buy one bag of potato chips and one candy bar from them. They need to work out how much he should pay.

$1p + 1c =$

Ralph writes **$3p + 4b = 375$**

1. If ***p*** stands for the cost, in cents, of a bag of potato chips and ***b*** stands for the cost, in cents, of a candy bar, what does the 375 in Ralph's equation mean?

How much he spent totall on both items.

Total Cost

^ 0

2. Write a similar equation, using ***p*** and ***b***, for the items Jody bought.

$4p + 2b = 300$ ✓ 2

S9

3. Use the two equations to figure out the price of a bag of potato chips and the price of a candy bar.

potato chips .75¢ ×

candy bar .60¢ × 0

Show your work.

$3p+4b=375$

$-8p-4b=-600$ ✓

$-5p = \frac{-375}{-5}$ ×

$p = 75$ (1)

2.4

4. Clancy has just $1. Does he have enough money to buy a bag of potato chips and a candy bar?

NO

Explain your answer by showing your calculation.

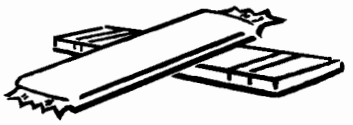
Because, Together the items add up to more then a dollar. ✓ 1

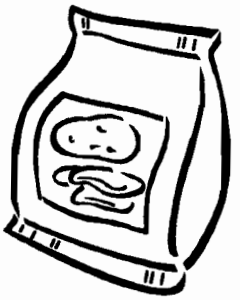
Buying Chips and Candy

S10

This problem gives you the chance to:
• form and solve a pair of linear equations in a practical situation

Ralph and Jody go to the shop to buy potato chips and candy bars.





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Later Clancy joins Ralph and Jody and asks to buy one bag of potato chips and one candy bar from them. They need to work out how much he should pay.

Ralph writes $\mathbf{3}p + \mathbf{4}b = \mathbf{375}$

1. If p stands for the cost, in cents, of a bag of potato chips and b stands for the cost, in cents, of a candy bar, what does the 375 in Ralph's equation mean?

the 375 means $3.75 for his total. ^

0

2. Write a similar equation, using p and b, for the items Jody bought.

4P + 2L = 300 ✓ 2

3. Use the two equations to figure out the price of a bag of potato chips and the price of a candy bar.

potato chips 45¢ ✓

candy bar 60¢ ✓ 1

Show your work.

$3P+4b=375$

$4P+2b=300$

$-8P-4b=-600$

$-5P = -225$

$P = 45$

$135+240=375$

$120+2b=300$

$2b=120$

$b=60$ ✓ 2

4. Clancy has just $1. Does he have enough money to buy a bag of potato chips and a candy bar?

Explain your answer by showing your calculation.

$60+45=$

105 ✓

No. ✓ He need 5¢ More. 1