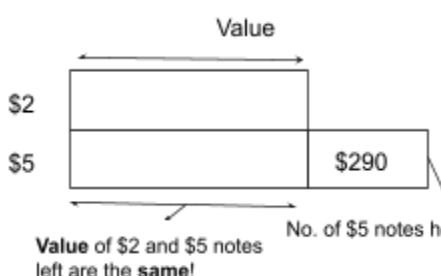
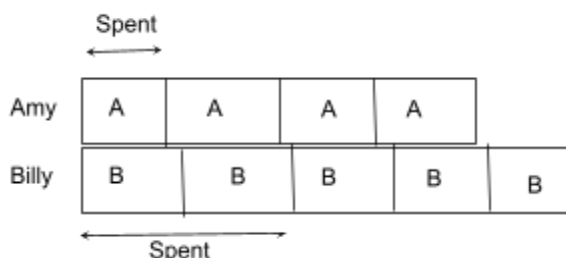


## Chapter 1: Whole Numbers Part G

### Part 5: 2 Totals

Keywords	Step-By-Step
<p><b>Exact 2 totals given</b></p> <p>i.e. Miss Lee bought some pencils for her class of <b>8 students</b>. Each girl received 5 pencils and each boy received 2 pencils.</p> <p>She bought a <b>total of 22 pencils</b>. How many boys were there in the class?</p>	<p>Assumption:</p> <ol style="list-style-type: none"> <li>1) Assume opposite to question</li> <li>2) Answer = <math>\frac{\text{Big Difference}}{\text{Small Difference}}</math></li> </ol> <p>Assume all girls <math>\rightarrow 8 \text{ girls} \times 5 \text{ pencils} = 40 \text{ pencils total}</math>            Answer (number of boys) = <math>\frac{40 - 22}{5 - 2} = \frac{18}{3} = \mathbf{6}</math></p>
<p><b>Only 1 total is given + 1 difference</b></p> <p>i.e. Miss Tan has a <b>total of 100</b> two-dollar and five-dollar <b>notes</b>.</p> <p>The <b>total value</b> of the five-dollar notes was <b>\$290 more</b> than that of the two-dollar notes. How much money does she have?</p>	<ol style="list-style-type: none"> <li>1) Remove the extra</li> <li>2) Guess and Check what combination (price x number) give same value</li> </ol>  <p>Number of \$2 and \$5 notes left = <math>100 - 58 = 42</math></p> <p>Value (price x number) is same for both \$2 and \$5 notes left just need to split the 42 notes between \$2 and \$5:</p> $\begin{matrix} \$2 \times 30 = \$5 \times 12 \\ (\$60) \quad (\$60) \end{matrix}$ <p>So total amount of money = <math>60 + 60 + 290 = \mathbf{410}</math></p>
<p><b>Exact 2 totals given BUT units not the same type</b></p> <p>i.e. Amy and Billy had a <b>total of \$400</b>.</p>	<ol style="list-style-type: none"> <li>1) Each box put their name letter</li> <li>2) Form 2 equations</li> <li>3) Divide or multiply to make one of the letter the same</li> <li>4) ADD (if have - sign) and MINUS (if no -sign) between 2 equations</li> </ol>

Amy spent  $\frac{1}{4}$  of her sum and Billy spent  $\frac{2}{5}$  of his. They then had a **total of \$255 left**. How much Amy spend?



$$4A + 5B = 400$$

$$3A + 3B = 255 \rightarrow (\text{Divide by 3 both sides}) 1A + 1B = 85$$

$$\rightarrow (\text{Multiply by 4 both sides}) 4A + 4B = 340$$

$$\text{MINUS both equations: } 1B = 400 - 340 = 60$$

$$1A = 85 - 60 = 25$$

## Part 2: Teacher's Handwritten Notes

### Paper 2 Question

The total cost of 2 identical files and 3 identical markers was \$15. The total cost of 5 such files and 6 such markers was \$34.80. What was the cost of 1 such marker?

① Multiply to make one same  
x2

$$4F + 6M = 30$$

$$2F + 3M = 15$$

$$5F + 6M = 34.80$$

② Find difference!

$$1F = 4.80$$

$$2F = 9.60$$

$$9.60 + 3M = 15$$

$$3M = 15 - 9.60 = 5.40$$

$$1M = \underline{\underline{1.80 \text{ (ANS)}}}$$

2 pencils and 4 notebooks cost \$26. 4 pencils and 2 notebooks cost \$22. Find the cost of 1 notebook.

$$x2 \rightarrow 4P + 8N = 52$$

$$2P + 4N = 26$$

$$- \quad 4P + 2N = 22$$

$$6N = 30$$

$$1N = \underline{\underline{5}}$$

**P5 Math AL1 Topical Mastery**

Baker Tan had 3262 chocolate and strawberry muffins. He sold  $\frac{4}{5}$  of the chocolate muffins and  $\frac{3}{4}$  of the strawberry muffins. There were 736 muffins left. How many chocolate muffins did he sell?

$5C + 4S = 3262$   
 $1C + 1S = 736$   
 $4C + 4S = 2944$

$1C = 3262 - 2944$   
 $= 318$   
 $4C = 318 \times 4 = 1272$

① multiply to make one the same  
 ② minus!

as different models so put letters!!  
 Ans: 1272

**Part 3: Intensive Drills (Basic Models)**

Q1) The cost of 5 boxes of cookies is the same as the cost of 7 boxes of muffins. If 15 boxes of cookies and 9 boxes of muffins cost \$330,

- (a) What is the cost of 1 box of muffins?
- (b) What is the cost of 1 box of cookies?

Ans: (a) \$11 (b) \$15.40

Q2) The total cost of 8 backpacks and 5 wallets is \$3,600. The cost of a wallet and 4 backpacks is \$1,350.

- (a) What is the cost of each backpack?
- (b) What is the cost of three such wallets?

Ans: (a) \$237.50 (b) \$300

Q3) Lucas's father gave him \$400 to buy 5 packets of prawns and 6 packets of chicken breasts. However, Lucas bought 6 packets of prawns and 5 packets of chicken breasts and had \$250 left. What is the cost of a packet of prawns?

Ans: \$100

Q4) 5 dogs and 4 goats weigh 45 kg. 3 dogs and 6 goats weigh 45 kg. How much does a goat weigh?

Ans: 5kg

Q5) In a stationery shop, 4 pens and 3 rulers cost \$27. 3 pens and 4 rulers cost \$29. How much do 5 pens and 5 rulers cost?

Ans: \$40

**P5 Math AL1 Topical Mastery**

Q6) Kevin bought 6 identical caps and 4 identical scarves for \$236. From the same store, Sam bought 4 such caps and 6 such scarves for \$190. How much would it cost to buy 3 caps and 3 scarves?

Ans: \$127.80

Q7) Miss Tan bought some notebooks for her class of 12 students. Each boy received 6 notebooks, and each girl received 3 notebooks. She bought a total of 54 notebooks. How many boys were there in the class?

Ans: 6 boys

Q8) There are a total of 35 trucks and motorcycles in a parking lot. If there are 106 wheels altogether, how many more trucks than motorcycles are there?

Ans: 1

Q9) Oranges cost \$0.90 each and bananas cost \$0.75 each. If a total of 150 oranges and bananas cost \$121.50, how many oranges were there?

Ans: 60 oranges

Q10) In a quiz competition, 4 points were awarded for each correct answer, and 1 point was deducted for each wrong answer. If my score was 115 points after answering all 40 questions, how many questions did I answer incorrectly?

Ans: 9 incorrect

Q11) There are 180 sandwiches for 150 people. Each adult eats 5 sandwiches, and every 4 children share one sandwich. How many children are there?

Ans: 120 children

**ANSWER KEY**

<p><b>Q1</b>  <math>5C = 7M \rightarrow 15C = 21M</math>  <math>15C + 9M = 330</math>  <math>30M = 330 \rightarrow \mathbf{1M = 11}</math>  <math>5C = 77 \rightarrow \mathbf{1C = 15.4}</math></p>	<p><b>Q2</b>  <math>\mathbf{8B + 5W = 3600}</math>  <math>4B + 1W = 1350 \rightarrow (\times 2) \mathbf{8B + 2W = 2700}</math>                      (minus) <math>3W = 3600 - 2700 = 900</math>  <math>\mathbf{1W = 300}</math>  <math>4B + 400 = 1350 \rightarrow 4B = 1350 - 400 = 950</math>  <math>\mathbf{1B = 237.5}</math></p>
<p><b>Q3</b>  <math>5P + 6C = 400 (\times 5) \rightarrow \mathbf{25P + 30P = 2000}</math>  <math>6P + 5C = 150 (\times 6) \rightarrow \mathbf{36P + 30P = 900}</math>                      (Multiply to make one same)                      Difference <math>11P = 1100 \rightarrow \mathbf{1P = 100}</math></p>	<p><b>Q4</b>  <math>5D + 4G = 45 (\times 3) \rightarrow 15D + 12G = 135</math>  <math>3D + 6G = 45 (\times 2) \rightarrow 6D + 12G = 90</math>                      (Multiply to make G the same)                      Difference <math>9D = 135 - 90 = 45</math>  <math>1D = 45 / 9 = 5</math>  <math>12G = 90 - 6 \times 5 = 60</math>  <math>1G = 60 / 12 = \mathbf{5 \text{ kg}}</math></p>
<p><b>Q5</b>  <math>4P + 3R = 27</math>  <math>3P + 4R = 29</math>                      (Add): <math>7P + 7R = 56</math>                      (Divide by 7): <math>1P + 1R = \mathbf{8}</math>  <math>\mathbf{5P + 5R = 40}</math></p>	<p><b>Q6</b>  <math>6C + 4S = 236</math>  <math>4C + 6S = 190</math>                      (Add): <math>10C + 10S = 426</math>                      (Divide by 10): <math>1C + 1S = 42.60</math>                      (Multiply by 3) <math>3C + 3S = \mathbf{127.80}</math></p>
<p><b>Q7</b>                      Assume opp: All girls = <math>12 \times 3 = 36</math>                      Number of boys = <math>\frac{\text{large diff}}{\text{small diff}} = \frac{54 - 36}{6 - 3} = \mathbf{6}</math></p>	<p><b>Q8</b>                      Assume opp: All motorcycles = <math>35 \times 2 = 70</math>                      Number of trucks = <math>\frac{\text{large diff}}{\text{small diff}} = \frac{106 - 70}{4 - 2} = 18</math>                      Number of motorcycles = <math>35 - 18 = 17</math>                      Difference = <math>18 - 17 = \mathbf{1}</math></p>
<p><b>Q9</b>                      Assume opp: All banana = <math>0.75 \times 150 = 112.50</math>                      Number of oranges = <math>\frac{\text{large diff}}{\text{small diff}} = \frac{121.5 - 112.5}{0.9 - 0.75} = \mathbf{60}</math></p>	<p><b>Q10</b>                      Assume opp: All correct = <math>4 \times 40 = 160</math>                      Number of incorrect = <math>\frac{\text{large diff}}{\text{small diff}} = \frac{160 - 115}{4 + 1} = \mathbf{9}</math></p>
<p><b>Q11</b>                      Assume opp: All adults = <math>150 \times 5 = 750</math>                      Number of children =  <math>\frac{\text{large diff}}{\text{small diff}} = \frac{750 - 180}{(5 - 0.25)} = \mathbf{120}</math></p>	