



Primary 5
Model Approach
Lesson 10:
Grouping (II)

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Lesson 10: Grouping (II)**GUIDED EXAMPLE 1**

For every 6 pens Tom paid, he would get another 1 pen free.
How many pens did Tom pay for if he had a total of 84 pens?



$$84 \div 7 = 12$$

$$12 \times 6 = 72 \quad (\text{Ans})$$

GUIDED EXAMPLE 2

ABC company paid for their 97 employees to go for holiday.

The holiday package cost \$428 for each person.

The tour agency was having a promotion.

[For every 4 persons, the fourth person would only need to pay half the price.]

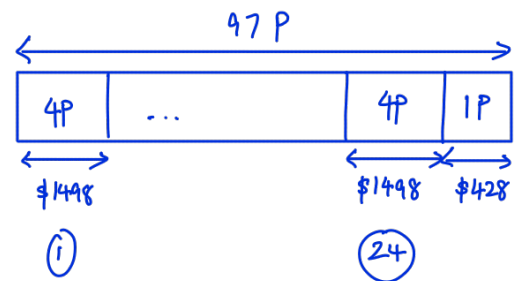
How much money did ABC company pay?

1 st	2 nd	3 rd	4 th
\$428	\$428	\$428	\$214

4 packages cost $3\frac{1}{2} \times \$428 = \1498

$97 \div 4 = 24 \text{ R } 1$

$24 \times \$1498 + \$428 = \$36380 \text{ (Ans)}$



GUIDED EXAMPLE 3

For every book that Tony sells, he gets \$1.75 as commission.
 He gets an additional \$1.50 for every 8 books sold.
 How many books did Tony sell if he earned \$50 in commission?

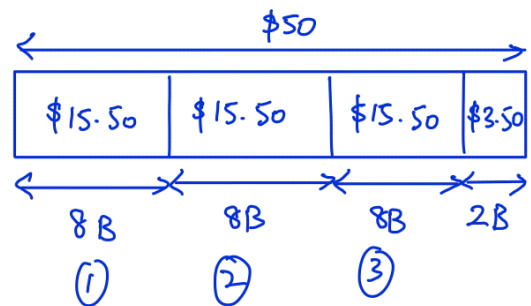
(Henry Park P5 CA2 Q18)

8 Books sold earns him $8 \times \$1.75 + \$1.50 = \$15.50$

$\$50 \div \$15.50 = 3 \text{ R } \$3.50$

$\$3.50 \div \$1.75 = 2$

$3 \times 8 + 2 = 26 \text{ (Ans)}$



GUIDED EXAMPLE 4

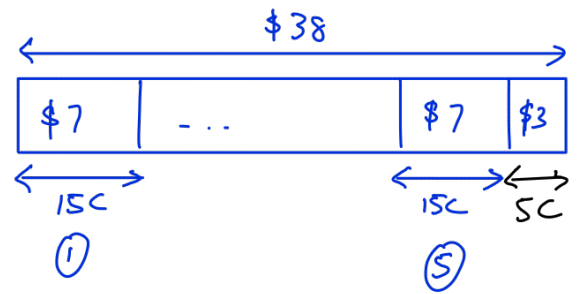
During a sale, (Mrs Cheng paid \$2 less for every 15 candies she bought.)
 Each candy costs 60 cents. Mrs Cheng paid a total of \$38.
 Find the maximum number of candies she had bought.

15 candies cost $15 \times \$0.60 - \$2 = \$7$

$\$38 \div \$7 = 5 \text{ R } \$3$

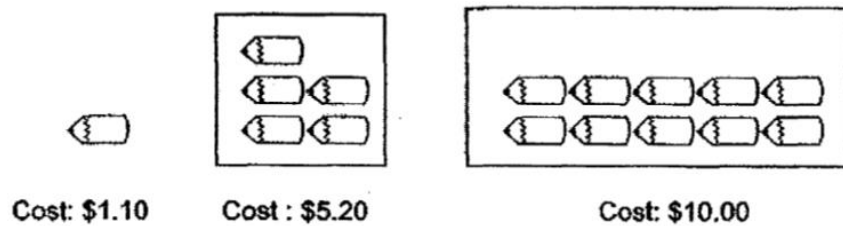
$\$3 \div \$0.60 = 5$

$5 \times 15 + 5 = 80 \text{ (Ans)}$



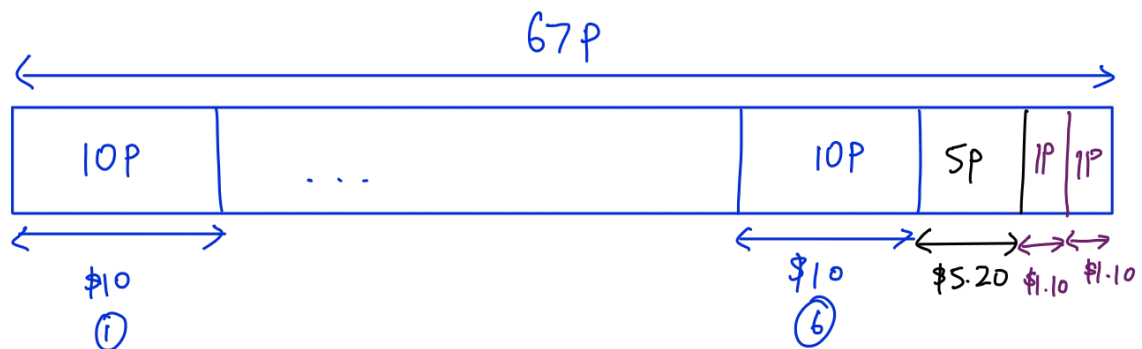
GUIDED EXAMPLE 5

Pencils are sold at the prices as shown in the given pictures.



What is the minimum amount of money Mrs. Tan has to pay for 67 pencils?

(Tao Nan P5 SA1)



$$67 \div 10 = 6 \text{ R } 7$$

$$7 \div 5 = 1 \text{ R } 2$$

$$6 \times \$10 + \$5.20 + 2 \times \$1.10 = \$67.40 \text{ (Ans)}$$

GUIDED EXAMPLE 6

Mrs. Lee sells one apple pie for \$2.

When a customer buys 3 apple pies, he can buy 1 more apple pie at half the price.

What is the greatest number of apple pies a customer can buy with \$80?

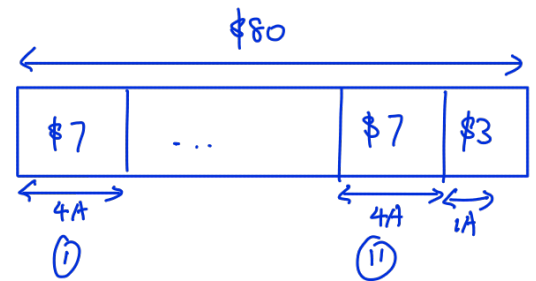
A A A A
 \$2 \$2 \$2 \$1

4 apple pies cost $3\frac{1}{2} \times \$2 = \7

$$\$80 \div \$7 = 11 \text{ R } \$3$$

$$\$3 \div \$2 = 1 \text{ R } \$1$$

$$11 \times 4 + 1 = 45$$



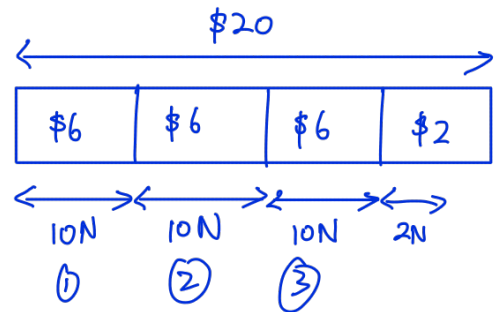
BUILD YOUR UNDERSTANDING

1. In a bookshop, notebooks are sold at either \$0.70 each or \$6 for a set of 10 notebooks. What is the maximum number of notebooks a customer can buy with \$20?

$$\$20 \div \$6 = 3 \text{ R } \$2$$

$$\$2 \div \$0.70 = 2 \text{ R } \$0.60$$

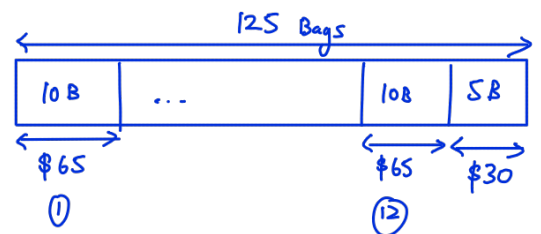
$$3 \times 10 + 2 = 32 \text{ (Ans)}$$



2. A salesperson sells bags in a shop.
 She is paid \$6 for every bag she sells.
 She will also be paid an extra \$5 for every 10 bags she sells.
- a) How much will she earn for selling 10 bags?
- b) How much will she earn for selling 125 bags?

a) 10 Bags sold earns her $10 \times \$6 + \$5 = \$65$ (Ans)

b) $125 \div 10 = 12 \text{ R } 5$
 $12 \times \$65 + 5 \times \$6 = \$810$ (Ans)



3. At a garage sale, each item was sold for \$5.
For every 5 items purchased,
another item would be given free.
- a) John wanted to get 13 items.
How much would he need to pay?
- b) Jazz paid \$105 altogether for some items.
What was the maximum of number of items she could buy?

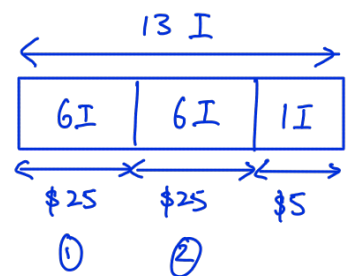
a)



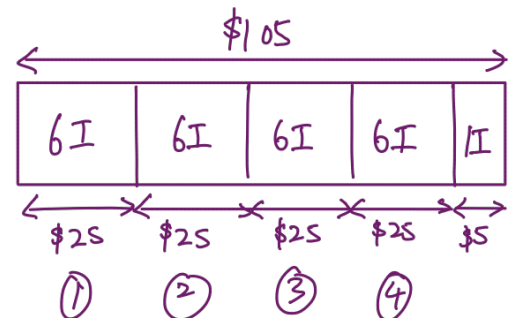
6 items cost $5 \times \$5 = \25

$13 \div 6 = 2 \text{ R } 1$

$2 \times \$25 + \$5 = \$55 \text{ (Ans)}$



b) $\$105 \div \$25 = 4 \text{ R } \$5$
 $\$5 \div \$5 = 1$
 $4 \times 6 + 1 = 25 \text{ (Ans)}$

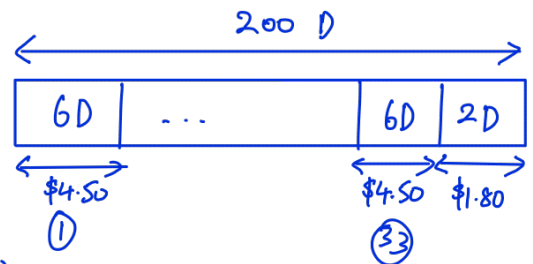


4. Mrs. Lam bought 200 donuts for a party.
 Each donut costs \$0.90. [For every 5 donuts bought,
 1 donut will be given free.]
 How much did Mrs. Lam pay for the 200 donuts?

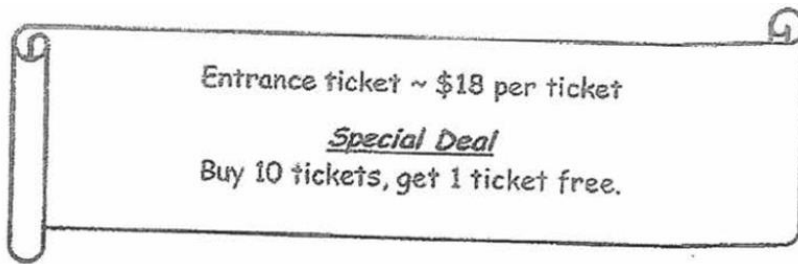
6 donuts cost $5 \times \$0.90 = \4.50

$200 \div 6 = 33 \text{ R } 2$

$33 \times \$4.50 + 2 \times \$0.90 = \$150.30$ (Ans)



5. The zoo is offering the following promotion in November.

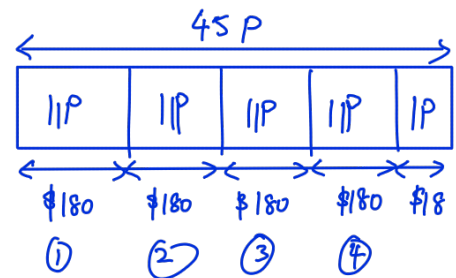


A group of 45 visitors went to the zoo in November.
 What is the least amount of money the group had to pay?

$$11 \text{ tickets cost } 10 \times \$18 = \$180$$

$$45 \div 11 = 4 \text{ R } 1$$

$$4 \times \$180 + \$18 = \$738 \text{ (Ans)}$$



6. Durians are sold in sets of 3 for \$50 or \$20 each. Noel had \$430.



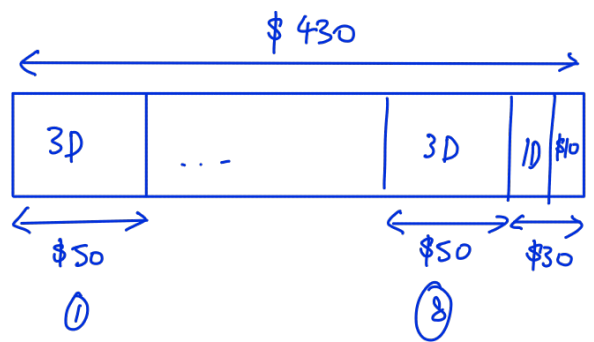
- a) How many durians can he buy at most?
 b) How much money will he have remaining?

$$\$430 \div \$50 = 8 \text{ R } \$30$$

$$\$30 \div \$20 = 1 \text{ R } \$10$$

$$a) 8 \times 3 + 1 = 25 \quad (\text{Ans})$$

$$b) \$10 \quad (\text{Ans})$$



CHALLENGE YOURSELF

Patrick sells biscuits. For every 3 tins of biscuits he sells, he earns \$5.
 For every 15 tins of biscuits he sells, he earns an additional \$4.
 How much money will Patrick earn if he sells 396 tins of biscuits?

(Pei Chun P5 SA1 Paper 2 Q15)

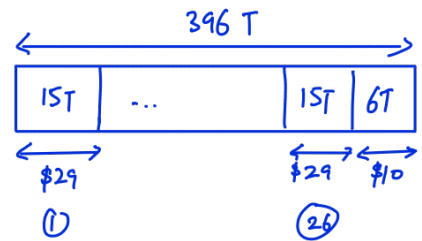
Every 15 tins sold earns him $\frac{15}{3} \times \$5 + \$4 = \$29$

$$396 \div 15 = 26 \text{ R } 6$$

$$6 \div 3 = 2$$

$$2 \times \$5 = \$10$$

$$26 \times \$29 + \$10 = \$764$$



Ans: \$764

CHALLENGE YOURSELF

A librarian spent \$1888 buying books for the school library during the promotion as shown below.
How many books did she buy altogether?



Books
At \$16 each

PROMOTION
Buy any 18 books
and
get the 19th and 20th books at
half price each

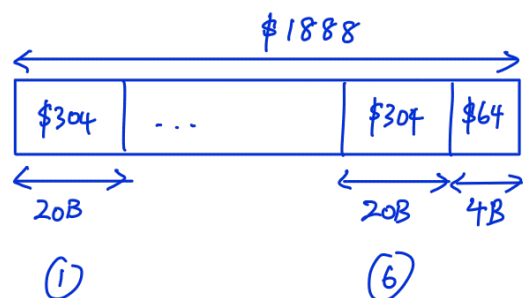
(River Valley P5 SA1 Paper 2 Q18)

20 Books cost $(18 + \frac{1}{2} + \frac{1}{2}) \times \$16 = \$304$

$\$1888 \div \$304 = 6 \text{ R } \$64$

$\$64 \div \$16 = 4$

$6 \times 20 + 4 = 124$



Ans : 124

CHALLENGE YOURSELF

A packet of chocolates cost \$4.

3 packets of chocolates are sold for \$10.

For every 70 packets that Gail buys, a discount of \$8 is given.

Find the minimum cost of 200 packets of chocolates.

(ACS P5 Mid Year Paper 2 Q18)

$$200 \div 3 = 66 \text{ R } 2$$

(can buy 66 groups of 3 at \$10 per group)

$$66 \times \$10 + 2 \times \$4 = \$668$$

How much discount?

$$200 \div 70 = 2 \text{ R } 60$$

$$\begin{aligned} \text{Discount given} &= 2 \times \$8 \\ &= \$16 \end{aligned}$$

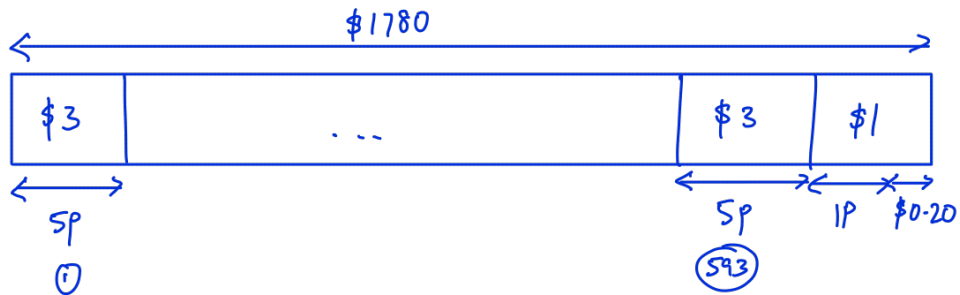
$$\begin{aligned} \text{Minimum cost} &= \$668 - \$16 \\ &= \$652 \end{aligned}$$

Ans: \$652

CHALLENGE YOURSELF

In a school bookshop, pencils are sold at either \$0.80 each or \$3 for a set of 5 pencils.

- a) What is the maximum number of pencils that Mr. Ng can buy with \$1780?
- b) How much money will he have remaining?



$$\$1780 \div \$3 = 593 \text{ R } \$1$$

$$\$1 \div \$0.80 = 1 \text{ R } \$0.20$$

$$a) \quad 593 \times 5 + 1 = 2966$$

Ans: a) 2966

$$b) \quad \$0.20$$

b) \$0.20