

Northoaks Primary School

Primary 5 Mathematics Workshop for Parents

16 April 2018 (Monday)



Single Unchanged Quantity

Q1

	Lily	Devi
Before	2 units x 3 = 6 parts	1 unit x 3 = 3 parts
Change	- 120	
After	1 part	3 parts

units \neq parts


6 parts – 1 part = 5 parts


5 parts = 120

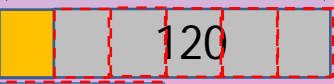
1 part = $120 \div 5$
= 24


6 parts (Lily) = 24×6
= **144**

Answer: 144 cards

Lily 

Devi 

Lily 

Devi 

A double-headed arrow with a question mark spans the width of the dashed boxes, indicating the total value of 120 units.

Q2

	Girls	Boys
Before	2 units	3 units
Change	+ 70	
After	4 parts x 3 = 12 units	1 part x 3 = 3 units

units \neq parts

10 units \rightarrow 70

1 unit = $70 \div 10$
= 7

3 units = 3×7
= **21**

Answer: 21 boys

Q3

	Dan	Mark
Before	50	100
	1 unit	2 units
Change		- 15 erasers
After	60	100
	3 parts	5 parts

units \neq parts

	Dan	Mark
Before	1 unit $\times 3 =$ 3 parts	2 units $\times 3 =$ 6 parts
Change		- 15 erasers
After	3 parts	5 parts

1 part $\rightarrow 15$
3 units $= 3 \times 15 = 45$

Answer: 45 erasers

Q4

	Girls	Boys
Before	5 units $\times 2 =$ = 10 parts	3 units $\times 2 =$ 6 parts
Change	- ?	
After	1 part $\times 3 =$ 3 units	2 parts $\times 3 =$ 6 units

units \neq parts

Total parts $\rightarrow 10 + 6 = 16$
 16 parts $= 928$
 1 part $= 928 \div 16 = 58$
 7 parts $= 7 \times 58 = 406$

Answer: 406 girls

Total Unchanged Quantities

Q1

	Ali	Bala	Total
Before	1 unit x 4 = 4 units	1 unit x 4 = 4 units	2 units x 4 = 8 units
Change	- 30	+ 30	No change
After	1 unit	7 units	8 units

Ali  3 units → 30

Bala  1 unit = 10

Ali  8 units = 8 x 10

Bala  = 80

Answer: 80 marbles

Q2

	Ben	Daniel	Total
Before	1 unit x 2 = 2 units	3 units x 2 = 6 units	4 units x 2 = 8 units
Change	+ 72	- 72	
After	5 units	3 units	8 units

$$\begin{aligned}
 3 \text{ units} &\rightarrow 72 \\
 6 \text{ units} &= (72 \div 3) \times 6 \\
 &= 144
 \end{aligned}$$

Answer: \$144

Q3

	Container	Sack	Total
Before	9 units	5 units	14 units
Change	- 20 kg	+ 20 kg	
After	2 units x 2 = 4 units	5 units x 2 = 10 units	7 units x 2 = 14 units

$$\begin{aligned}
 5 \text{ units} &\rightarrow 20 \\
 14 \text{ units} &= (20 \div 5) \times 14 \\
 &= 56
 \end{aligned}$$

Answer: 56 kg

Q4

	Aini (\$2)	Sean (\$5)	Total
Before	7 units	5 units	12 units
Change	- 24	+ 24	
After	1 unit x 3 = 3 units	3 units x 3 = 9 units	4 units x 3 = 12 units

$$\begin{aligned}
 4 \text{ units} &\rightarrow 24 \\
 5 \text{ units (Sean)} &= (24 \div 4) \times 5 \\
 &= 30
 \end{aligned}$$


$$\text{Money (Sean)} \rightarrow 30 \times \$5 = \mathbf{\$150}$$


Answer: \$150


Difference Unchanged Quantities


Question 1

units ≠ parts

Mr Lim  5 units = 500

Mr Lee  1 unit = $500 \div 5$
= 100

Mr Lim  8 units = 100×8
= **800**

Mr Lee  = **800**

Answer: \$800

Q1

	Mr Lim	Mr Lee	Difference
Before	3 units x 2 = 6 parts	4 units x 2 = 8 parts	1 unit x 2 = 2 parts
Change	-\$500	-\$500	
After	1 part	3 parts	2 parts

5 parts = 500

1 part = $500 \div 5$
= 100

8 parts = 100×8
= **800**

Answer: \$800

Q1

At first → Mr Lim : Mr Lee : Difference

3 : 4 : 1

6 : 8 : 2

After → Mr Lim : Mr Lee : Difference

1 : 3 : 2

8 units – 3 units = 5 units

5 units = 500

1 unit = $500 \div 5$

= 100

8 units = 100×8 = **800****Answer: \$800**

Q2

units ≠ parts

	Adults	Children	Difference
Before	1 unit (369)	3 units	2 units
Change	- ?	- ?	
After	1 part	4 parts	3 parts

$$3 \text{ parts} = 369 \times 2$$

$$= 738$$

$$1 \text{ part} = 738 \div 3$$

$$= \mathbf{246}$$

Answer: 246 adults

Q3 Before → Boys : Girls : Difference
20 : 80 : 60
2 : 8 : 6

After → Boys : Girls : Difference
40 : 100 : 60
4 : 10 : 6

$$\begin{aligned} \text{Difference} &\rightarrow 4 - 2 \\ &= 2 \end{aligned}$$

$$2 \text{ units} = 10$$

$$\begin{aligned} 1 \text{ unit} &= 10 \div 2 \\ &= 5 \end{aligned}$$

$$\begin{aligned} \text{Total units} &= 4 + 10 \\ &= 14 \end{aligned}$$

$$\begin{aligned} 14 \text{ units} &= 14 \times 5 \\ &= \mathbf{70} \end{aligned}$$

Answer: 70 children

2 Changed Quantities

Q1

	Ann	Barry
Before	3 units x 2 = 6 units	4 units x 3 = 12 units
Change	+ 9 x 2 = + 18	- 18 x 3 = - 54
After	3 parts x 2 = 6 parts	2 parts x 3 = 6 parts

units ≠ parts

Using the principle of common multiple:

Ann	6 units	18	
Barry	6 units	18	54

←————— 12 units —————→

$$\begin{aligned}
 6 \text{ units} &= 2 \times 9 + 3 \times 18 \\
 &= 72 \\
 1 \text{ unit} &= 72 \div 6 \\
 &= 12 \\
 3 \text{ units (Ann)} &= 3 \times 12 \\
 &= \mathbf{36}
 \end{aligned}$$

Answer: 36 stickers

Q2

	Red	Blue
Before	3 units x 10 = 30 units	2 units x 7 = 14 units
Change	- 55 x 10 = - 550	- 10 x 7 = - 70
After	7 parts x 10 = 70 parts	10 parts x 7 = 70 parts

units ≠ parts

Red	30 units	16 units	70
Blue	14 units	16 units	50

By comparison,

$$\begin{aligned}
 30 - 14 &= 16 \\
 16 \text{ units} &= 10 \times 55 - 10 \times 7 \\
 &= 480 \\
 1 \text{ unit} &= 480 \div 16 \\
 &= 30 \\
 5 \text{ units} &= 5 \times 30 \\
 \text{(Total)} &= \mathbf{150}
 \end{aligned}$$

Answer: 150 beads