Fractions

Fractions of a set of objects (1) ®

Fractions of a set of objects (2) ®

Calculate fractions of a quantity

Problem solving – calculate quantities

Mon – Use Fractions of a set object (R)

Tues– Use Fractions of a set object (R)

Wed– Calculate Fractions of a quanity

Thurs– Problem solve

Fri – EOM

Tuesday

Monday

IALT: use fractions of set fractions PART 2

I have 18 toys and I want to sell 1/3 of them. How many am I selling?

Miss Parry made 100 pancakes on panckae day. She gave 1/4 of them to her friends and about 2/4 of them. How many did she have left?

Miss Edwards is sharing out pencils. She gices 2/5 of the pencils to Miss Parry. There are 45 pencils all together. How many did Miss Edwards gives to Miss Parry?
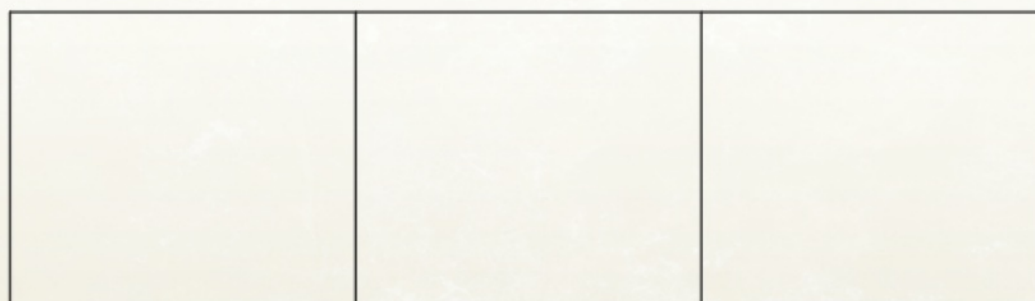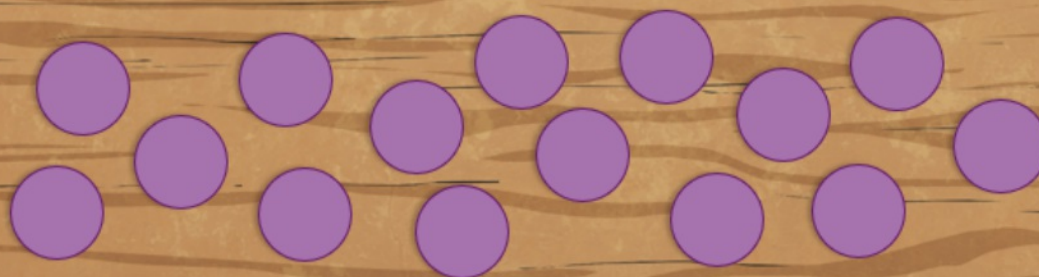
Challenge

$$\frac{1}{5} + \frac{2}{5} = \frac{\square}{5}$$

$$\frac{2}{7} + \frac{3}{7} + \frac{1}{7} = \frac{\square}{\square}$$

$$\frac{7}{10} + \frac{\square}{\square} = \frac{9}{10}$$

https://www.topmarks.co.uk/maths-games/daily10

How would we equaly split this.

A bar model can be used to find $\frac{1}{3}$ of 15.

Fran

I had £30.
On Monday, I spent $\frac{2}{3}$ of the money.
On Tuesday, I spent $\frac{1}{2}$ of what was left.

$\frac{2}{3}$

How much money does she spend on Monday?

Fran

I had £30.

On Monday, I spent $\frac{2}{3}$ of the money.

On Tuesday, I spent $\frac{1}{2}$ of what was left.

10	10	

$\frac{2}{3}$

2/3 of 30 is 20.

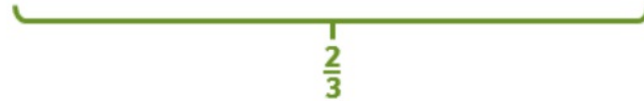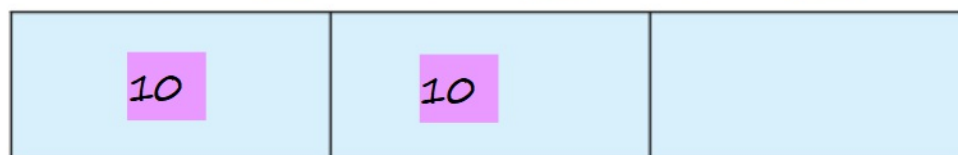How much money does she spend on Monday?

Fran

I had £30.
On Monday, I spent $\frac{2}{3}$ of the money.
On Tuesday, I spent $\frac{1}{2}$ of what was left.

$\frac{2}{3}$

How much money does she spend on Tuesday?

Fran

I had £30.
On Monday, I spent $\frac{2}{3}$ of the money.
On Tuesday, I spent $\frac{1}{2}$ of what was left.

$\frac{1}{2}$

On Tuesday Fran spends 1/2 of the money left. So how muhc money is left over?

Fran

I had £30.
On Monday, I spent $\frac{2}{3}$ of the money.
On Tuesday, I spent $\frac{1}{2}$ of what was left.

5	5

$\frac{1}{2}$

12/ of 10 is 5.

MILD

1) A bar model can be used to find $\frac{1}{4}$ of 8.
If $\frac{1}{4}$ of 8 is 2, then:

a) $\frac{2}{4}$ of 8 is _____.   b) $\frac{3}{4}$ of 8 is _____.

2) Find and circle $\frac{2}{7}$ of the footballs.

3) Find fractions of the amounts shown.

a) $\frac{2}{3}$ of 15 is _____   b) $\frac{3}{8}$ of 16 _____

4) Use a bar model and place value counters to find $\frac{2}{3}$ of 69.

SPICY

1) $\frac{2}{3}$ of the chairs set out for assembly are shown. How many chairs were set out altogether? Use a bar model and explain your reasoning.

2)

Tariq
I had £15. On Monday, I spent $\frac{1}{3}$ of the money.

a) How much money does Tariq have left by the end of Monday?

b) What fraction of the original amount is this?

c) On Tuesday, Tariq spent $\frac{1}{2}$ of what was left. How much money is he left with?

3) Two children are reading a book that has 80 pages. They are discussing who has read more of the book. Who has read the greater amount of the book? Use bar models to explain your reasoning.

Anya
I've read $\frac{1}{2}$ of the book so I've read the greater amount.

Tina
I've read $\frac{2}{8}$ of the book so I've read the greater amount.

HOT HOT HOT

1) Twinkl Primary School are giving out 60 glue sticks to classes in key stage one. Reception class were given $\frac{1}{3}$ of the glue sticks.

Year 1 were given $\frac{2}{6}$ of the glue sticks.
Year 2 were given the leftover glue sticks.

Rachel
Year 1 were given more glue sticks than the other classes.

Do you agree with Rachel? Use reasoning to explain your answer.

2) When we find $\frac{2}{5}$ of each multiple of 10 between 19 and 51, the answers are all smaller than $\frac{4}{8}$ of each multiple of 8 between 19 and 51. Do you agree? Use reasoning to explain your answer.

3) Kirk has been finding fractions of 48.
He says that all of the answers to these fractions will give an answer that is a multiple of 4.

$\frac{1}{4}$ of 48	$\frac{1}{8}$ of 48	$\frac{3}{8}$ of 48
$\frac{2}{6}$ of 48	$\frac{1}{2}$ of 48	$\frac{1}{12}$ of 48
$\frac{2}{3}$ of 48	$\frac{2}{8}$ of 48	

Do you agree? Explain your reasoning.

Answers

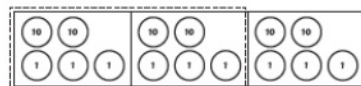1) a) $\frac{2}{4}$ of 8 is 4.   b) $\frac{3}{4}$ of 8 is 6.

2) $\frac{2}{7}$ of the footballs is 4.

3) a) $\frac{2}{3}$ of 15 is 10.   b) $\frac{3}{8}$ of 16 is 6.

4) $\frac{2}{3}$ of 69 is 46.

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1) If 18 chairs represent $\frac{2}{3}$ of the chairs, then dividing this amount by 2 would calculate $\frac{1}{3}$ of the chairs.
$18 \div 2 = 9$
To find $\frac{3}{3}$, the amount of chairs altogether, multiply $\frac{1}{3}$ by 3.
$9 \times 3 = 27$
There were 27 chairs set out for assembly.

| 9 chairs | 9 chairs | 9 chairs |

2) a) $\frac{1}{3}$ of 15 = 5
$15 - 5 = 10$
Therefore, Tariq was left with £10 on Monday.

b) As Tariq spent $\frac{1}{3}$ of his money, he will be left with $\frac{2}{3}$ of the original amount.

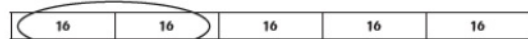c) $\frac{1}{2}$ of 10 = 5
Therefore, Tariq had £5 left on Tuesday.

3)
| 40 | 40 |

$\frac{1}{2}$ of 80 is 40.
$80 \div 2 = 40$
Anya has read 40 pages of the book.

| 16 | 16 | 16 | 16 | 16 |

$\frac{1}{5}$ of 80 is 16. $\frac{2}{5}$ of 80 is 32.
$80 \div 5 = 16$
$16 \times 2 = 32$
Tina has read 32 pages of the book.

40 is 8 more than 32. Therefore, Anya has read the greater amount of the book.

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1) Reception:
$\frac{1}{3}$ of 60 is 20. $60 \div 3 = 20$
Reception were given 20 glue sticks.

| 20 glue sticks | 20 glue sticks | 20 glue sticks |

Year 1:
$\frac{2}{6}$ of 60 is 20.
$60 \div 6 = 10$
$10 \times 2 = 20$
Year 1 were given 20 glue sticks.

| 10 glue sticks | 10 glue sticks | 10 glue sticks | 10 glue sticks | 10 glue sticks | 10 glue sticks |

40 glue sticks were given to reception and year 1.

Year 2:
$60 - 40 = 20$
Year 2 were given 20 glue sticks.

Each class was given 20 glue sticks. Therefore, Rachel is wrong.

2) This is not true.

| $\frac{2}{5}$ of 20 = 8 | $\frac{2}{5}$ of 40 = 16 | $\frac{4}{8}$ of 24 = 12 | $\frac{4}{8}$ of 40 = 20 |
| $\frac{2}{5}$ of 30 = 12 | $\frac{2}{5}$ of 50 = 20 | $\frac{4}{8}$ of 32= 16 | $\frac{4}{8}$ of 48 = 24 |

The answers show that only $\frac{2}{5}$ of 20 gives a smaller answer. Three of the answers are the same.

3) Kirk is incorrect. Although most of the answers are multiples of 4, some of them are not.
The following answers are multiples of 4:

| $\frac{1}{4}$ of 48 is 12. | $\frac{2}{8}$ of 48 is 12. | $\frac{2}{6}$ of 48 is 16. |
| $\frac{1}{2}$ of 48 is 24. | $\frac{2}{3}$ of 48 is 32. | $\frac{1}{12}$ of 48 is 4. |

The following answers are not multiples of 4:

$\frac{3}{8}$ of 48 is 18.
$\frac{1}{8}$ of 48 is 6.

This is $\frac{3}{4}$ of a set of beanbags.

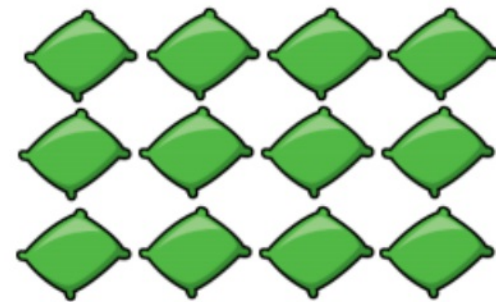How many were in the whole set?

Find $\frac{2}{5}$ of Eva's marbles.

I have divided the marbles into ☐ equal groups.

There are ☐ marbles in each group.

$\frac{2}{5}$ of Eva's marbles is ☐ marbles.

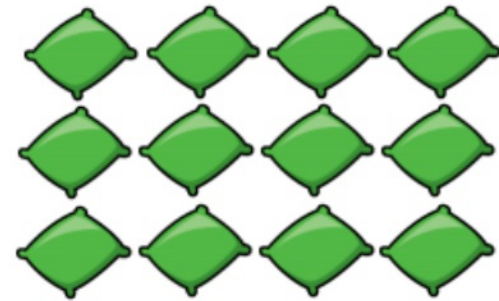Find $\frac{2}{5}$ of Eva's marbles.

I have divided the marbles into **5** equal groups.

There are **4** marbles in each group.

$\frac{2}{5}$ of Eva's marbles is **8** marbles.

This is $\frac{3}{4}$ of a set of beanbags.

How many were in the whole set?

16