



MATHEMATICS



N.S. Yr. 4 P.56

**Understand remainders
Rounding after division**

Equipment

Paper, pencil, ruler

MathSphere

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Concepts

Four basic concepts are developed in this module.

1. Giving a remainder as a whole number.

When a division sum is completed and there is a remainder it is important to consider this remainder - it may be the part of the problem that is needed to get the correct answer:

Eg If a class of 33 is divided into equal four teams how many children are left?

2. Dividing a whole number of pounds by 2, 4, 5 and 10 and working out any remainder exactly.

This builds on children's mental ability to split a pound into 2 (50p) or 4 (25p) or 5 (20p) or 10 (10p).

3. Rounding up.

Sometimes it is sensible to round an answer up. For example:

I have 34 bananas. A crate holds 10 bananas. How many crates do I need to hold all the bananas?

The answer is 4 as it would not be sensible to say 3 and a bit crates!

4. Rounding down

Sometimes it makes more sense to round the answer down. Eg

How many £5 tickets can I buy with £42. The answer is 8 as it is not possible to buy part of a ticket with the remaining two pounds.

Children can often complete the calculation correctly but then do not consider the context and whether it is more sensible to round up or down.

Working out remainders

Just write down the remainders for these sums.

I've done most of the work for you....hee..hee!

1. $23 \div 10$ is 2 remainder

2. $42 \div 10$ is 4 remainder

3. $36 \div 5$ is 7 remainder

4. $28 \div 5$ is 5 remainder

5. $19 \div 4$ is 4 remainder

6. $29 \div 4$ is 7 remainder

7. $87 \div 10$ is 8 remainder

8. $76 \div 10$ is 7 remainder

9. $47 \div 5$ is 9 remainder

10. $31 \div 5$ is 6 remainder

11. $23 \div 6$ is 3 remainder

12. $34 \div 6$ is 5 remainder

Working out remainders

Just write down the remainders for these sums.

I've done most of the work for you....hee..hee!

1. $36 \div 10$ is 3 remainder

2. $78 \div 10$ is 7 remainder

3. $44 \div 5$ is 8 remainder

4. $33 \div 5$ is 6 remainder

5. $18 \div 4$ is 4 remainder

6. $27 \div 4$ is 6 remainder

7. $67 \div 10$ is 6 remainder

8. $98 \div 10$ is 9 remainder

9. $28 \div 5$ is 5 remainder

10. $39 \div 5$ is 7 remainder

11. $33 \div 6$ is 5 remainder

12. $49 \div 6$ is 8 remainder

Working out remainders

Try working out the remainders
on these sums.
Put the answer in the box.

1. $33 = (5 \times 6) + \square$

2. $19 = (9 \times 2) + \square$

3. $56 = (10 \times 5) + \square$

4. $48 = (10 \times 4) + \square$

5. $23 = (5 \times 4) + \square$

6. $38 = (5 \times 7) + \square$

7. $18 = (4 \times 4) + \square$

8. $29 = (4 \times 7) + \square$

9. $23 = (3 \times 7) + \square$

10. $29 = (3 \times 9) + \square$

11. $57 = (6 \times 9) + \square$

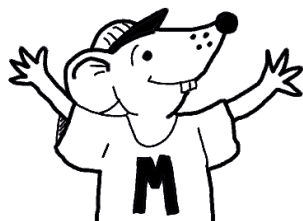
12. $52 = (6 \times 8) + \square$

13. $52 = (7 \times 7) + \square$

14. $67 = (8 \times 8) + \square$

15. $89 = (9 \times 9) + \square$

16. $41 = (6 \times 6) + \square$

Working out remainders

Try working out the remainders
on these sums.
Put the answer in the box.

1. $31 = (5 \times 6) + \square$

2. $17 = (8 \times 2) + \square$

3. $74 = (10 \times 7) + \square$

4. $93 = (10 \times 9) + \square$

5. $42 = (5 \times 8) + \square$

6. $18 = (5 \times 3) + \square$

7. $25 = (4 \times 6) + \square$

8. $33 = (4 \times 8) + \square$

9. $22 = (3 \times 7) + \square$

10. $25 = (3 \times 8) + \square$

11. $32 = (6 \times 5) + \square$

12. $57 = (6 \times 9) + \square$

13. $51 = (7 \times 7) + \square$

14. $68 = (8 \times 8) + \square$

15. $88 = (9 \times 9) + \square$

16. $40 = (6 \times 6) + \square$

Problems with remainders.

1. There are 46 children in year 4.

How many teams of 6 can be made?

How many children will be left over?

2. 29 children turned up for a football coaching session.

How many teams of 5 can be made?

How many children will be left over?

3. 38 sweets are shared between 5 children.

How many whole sweets will they each get?

How many sweets will be left over?

4. 39 eggs were put into egg boxes which hold 6 eggs.

How many whole egg boxes are filled?

How many eggs will be left over?

5. 50 bricks are stacked in piles of 6 bricks.

How many piles of 6 can be made?

How many bricks will be left over?



Did you hear about the stupid boy who hurt himself raking up leaves?

He fell out of the tree!

Problems with remainders.

1. 89 children go swimming with the school.

How many groups of 10 can be made?

How many children will be left over?

2. 40 children turned up for a netball coaching session.

How many teams of 7 can be made?

How many children will be left over?

3. 48 sweets are shared between 7 children.

How many whole sweets will they each get?

How many sweets will be left over?

4. 34 eggs were put into egg boxes which hold 6 eggs.

How many whole egg boxes are filled?

How many eggs will be left over?

5. 39 bricks are stacked in piles of 4 bricks.

How many piles of 4 can be made?

How many bricks will be left over?



What do you give a sick bird?

Tweetment!

Money and division

- 1.** Four children shared £22 between them.

How much did they each get?

- 2.** Four children shared £18 between them.

How much did they each get?

- 3.** A £45 prize was shared equally between two boys.

How much did they each get?

- 4.** 10 children were sponsored for a bike ride.

They collected a total of £55.

They each collected the same amount.

How much did they each collect?

- 5.** 5 girls shared £32 between them.

How much did they each get?

- 6.** In four weeks Jim saved £42.

He saved the same amount each week.

How much did he save each week?

- 7.** Ten children donated a total of £94 to a charity.

They each gave the same amount.

How much did they each give?

Money and division

- 1.** Four children shared £34 between them.

How much did they each get?

- 2.** Five children shared £21 between them.

How much did they each get?

- 3.** A £55 prize was shared equally between two girls.

How much did they each get?

- 4.** 10 children were sponsored for a walk.

They collected a total of £34.

They each collected the same amount.

How much did they each collect?

- 5.** 5 boys shared £36 between them.

How much did they each get?

- 6.** In four weeks Jill saved £38.

She saved the same amount each week.

How much did she save each week?

- 7.** Ten children donated a total of £87 to a charity.

They each gave the same amount.

How much did they each give?

Rounding up

To work out some division answers you will have to round up.

Eg if a box holds 3 cakes how many boxes are needed for 7 cakes?

The answer is 2 with one cake left, so an extra box is needed, making 3 in all.



All these answers need to be **rounded up** to make a sensible solution.

1. A box holds 4 cakes.

How many boxes are needed for 21 cakes?

2. 58 children go into the hall for a concert.

There are six seats in a row.

How many rows are needed to seat everyone?

3. Taxis hold 5 people.

How many taxis are needed to take 46 people to a wedding?

4. A bag holds 6 pears.

How many bags are needed for 21 pears?

5. 8 basketballs fit in a bin.

How many bins are needed for 35 basketballs?

6. A train carriage holds 100 passengers.

How many carriages are needed for 355 passengers?

7. A photograph album holds 20 photos.

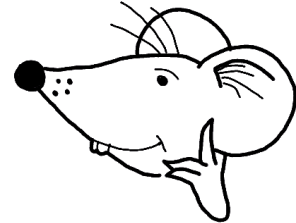
How many albums are needed for 78 photos?

Rounding up

To work out some division answers you will have to round up.

Eg if a box holds 5 cakes how many boxes are needed for 27 cakes?

The answer is 5 with two cakes left, so an extra box is needed, making 6 in all.



All these answers need to be **rounded up** to make a sensible solution.

1. A box holds 8 bananas.

How many boxes are needed for 38 bananas?

2. 85 children go into the cinema.

There are ten seats in a row.

How many rows are needed to seat everyone?

3. Taxis hold 5 people.

How many taxis are needed to take 27 people to a party?

4. A bag holds 8 oranges.

How many bags are needed for 65 oranges?

5. 10 CDs fit in a case.

How many cases are needed for 43 CDs?

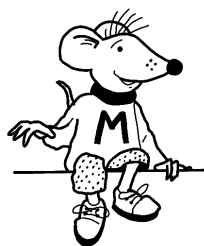
6. A coach holds 50 passengers.

How many coaches are needed for 210 children?

7. 9 marbles fit into a jar.

How many jars are needed for 19 marbles?

Rounding down



To make sensible answers to questions you sometimes have to round down.

Eg I have 35p. How many 10p sweets can I buy?
3 sweets will cost 30p and I will have 5p left - but this is not enough for another sweet - so the answer is 3.

All these answers need to be **rounded down** to make a sensible solution.

1. I have 54 cakes. A box holds 10 cakes.

How many boxes can I fill?

2. Harry has 75 books. His shelves each hold 10 books.

How many shelves can he fill with books?

3. A jug holds 8 litres of water.

How many jugs can be filled from 35 litres of water?

4. Sam has saved £50 to take her friends to the concert.

Tickets cost £6. How many friends can she take?

5. A jar holds 50 sweets.

How many jars can I fill with 299 sweets?

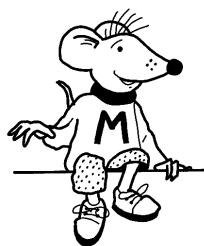
6. A folder holds 40 sheets of paper.

How many folders can I fill with 130 sheets of paper?

7. I have 74 stickers. A page holds 8 stickers.

How many pages can I fill with stickers?

Rounding down



To make sensible answers to questions you sometimes have to round down.

Eg I have £45. How many CDs can I buy at £8 each?

5 CDs will cost £40 and I will have £5 left - but this is not enough for another CD- so the answer is 5.

All these answers need to be **rounded down** to make a sensible solution.

1. I have 54 apples. A box holds 10 apples.

How many boxes can I fill?

2. Harry has 73 cassettes. His shelves each hold 9 cassettes.

How many shelves can he fill with cassettes?

3. A jug holds 9 cups of water.

How many jugs can be filled from 35 cups of water?

4. Al has saved £40 to take his friends to see a film.

Tickets cost £7. How many friends can he take?

5. A petrol tank holds 25 litres.

How many tanks can be filled with 260 litres?

6. A coach holds 50 children.

How many coaches can be filled with 240 children?

7. I have 87 stickers. A page holds 8 stickers.

How many pages can I fill with stickers?

Answers**Page 3**

1. 3 2. 2 3. 1 4. 3 5. 3 6. 1 7. 7 8. 6 9. 2 10. 1 11. 5 12. 4

Page 4

1. 6 2. 8 3. 4 4. 3 5. 2 6. 3 7. 7 8. 8 9. 3 10. 4 11. 3 12. 1

Page 51. 3 2. 1 3. 6 4. 8 5. 3 6. 3 7. 2 8. 1
9. 2 10. 2 11. 3 12. 4 13. 3 14. 3 15. 8 16. 5**Page 6**1. 1 2. 1 3. 4 4. 3 5. 2 6. 3 7. 1 8. 1
9. 1 10. 1 11. 2 12. 3 13. 2 14. 4 15. 7 16. 4**Page 7**

1. 7 with 4 left 2. 5 with 4 left 3. 7 with 3 left 4. 6 with 3 left 5. 8 with 2 left

Page 8

1. 8 with 9 left 2. 5 with 5 left 3. 6 with 6 left 4. 5 with 4 left 5. 9 with 3 left

Page 9

1. £5.50 2. £4.50 3. £22.50 4. £5.50 5. £6.40 6. £10.50 7. £9.40

Page 10

1. £8.50 2. £4.20 3. £27.50 4. £3.40 5. £7.20 6. £9.50 7. £8.70

Page 11

1. 6 2. 10 3. 10 4. 4 5. 5 6. 4 7. 4

Page 12

1. 5 2. 9 3. 6 4. 9 5. 5 6. 5 7. 3

Page 13

1. 5 2. 7 3. 4 4. 8 5. 5 6. 3 7. 9

Page 13

1. 5 2. 8 3. 3 4. 5 5. 10 6. 4 7. 10