



# MATHEMATICS



**N.S. Yr. 3 P.71**

**Word problems involving measurement**

## Equipment

Paper, pencil, ruler  
Clock face useful.

# MathSphere

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## **Concepts**

In this module children use mental calculations strategies to solve various number problems involving length, mass, capacity and time.

They should be encouraged to explain orally how the problems were solved and should be writing number sentences on paper to explain how they worked answers out mentally.

$$\text{Eg } 34 \text{ cm} + 43 \text{ cm} = 77 \text{ cm}$$

Length problems

**Two pieces of string are 34 cm long and 43 cm long.**

1. What is their total length?
2. What is the difference in their length?



**A brick is 20 cm long and 10 cm wide .**



3. How many bricks would you need for an 80 cm line of bricks?
4. What is the difference between the length and width of a brick?



**Jo's hand is 8 cm wide. Gavin's is 10 cm wide.**



5. How wide would 10 of Jo's hands be, end to end ?
6. If Gavin put both hands next to each other, how wide would they be?
7. How much wider is Gavin's hand than Jo's?

Length problems

**Two pieces of string are 42 cm long and 36 cm long.**

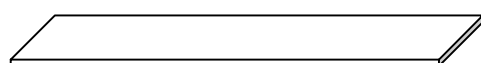
1. What is their total length?
2. What is the difference in their length?



**A brick is 20 cm long and 10 cm wide .**



3. How many bricks will you need for a 60 cm line of bricks?
4. How long a line of bricks can you make with 6 bricks?



**Balsa wood is sold in 50 cm strips.**

5. Mary needs 200 cm to make a train.  
How many strips must she buy?
6. Tom needs 230 cm to make an aeroplane.  
How many strips must be buy?
7. How much more does Tom need than Mary?

Mass

POTATO  
250 grams



ONION  
150 grams



PEPPER  
200 grams



CARROT  
100 grams

1. If a potato weighed 250g, roughly what would 4 potatoes weigh?
2. If an onion weighed 150g, roughly what would 2 onions weigh?
3. If a green pepper weighs 200g, roughly what would 5 peppers weigh?
4. If a carrot weighs 100g, roughly what would 6 carrots weigh?
5. About what would the weight be for a pepper and 2 carrots?
6. About what would the weight be for 2 onions and 2 potatoes?
7. About what would the weight be for 2 peppers and 5 carrots?
8. What would the total weight be for one of each vegetable?

Mass

POTATO  
250 grams



ONION  
150 grams



PEPPER  
200 grams



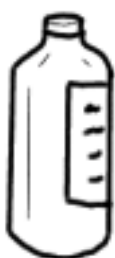
CARROT  
100 grams

1. If a potato weighed 250g, roughly what would 3 potatoes weigh?
2. If an onion weighed 150g, roughly what would 4 onions weigh?
3. If a green pepper weighs 200g, roughly what would 4 peppers weigh?
4. If a carrot weighs 100g, roughly what would 8 carrots weigh?
5. About what would the weight be for 2 peppers and 2 potatoes?
6. About what would the weight be for 4 onions and a potato?
7. About what would the weight be for 3 peppers and 3 carrots?
8. How much heavier is a potato than a carrot?



## Volume

Now, be good  
and take your  
medicine!



1. A bottle of medicine holds 45 ml.  
A spoon holds 5 ml.  
How many spoonfuls are in the bottle?

2. Another bottle of medicine holds 60 ml.  
A spoon holds 5 ml.  
How many spoonfuls are in the bottle?



3. A jug holds 500 ml of water.  
A cup holds 50 ml.  
How many cups can be filled by the jug?



4. A jug holds 800 ml of water.  
A cup holds 50 ml.  
How many cups can be filled by the jug?



5. A regular milkshake is 50 ml.  
A large milkshake is 90 ml.  
How much bigger is the large shake?



6. If the regular milkshake was 75p  
and the large milkshake was £1.50,  
which would be better value?



## Volume

A spoonful of sugar helps the medicine go down.....



1. A bottle of medicine holds 35 ml.  
A spoon holds 5 ml.  
How many spoonfuls are in the bottle?

2. Another bottle of medicine holds 80 ml.  
A spoon holds 5 ml.  
How many spoonfuls are in the bottle?



3. A jug holds 400 ml of water.  
A cup holds 50 ml.  
How many cups can be filled by the jug?



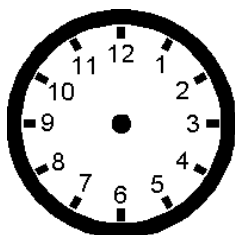
4. A jug holds 600 ml of water.  
A cup holds 50 ml.  
How many cups can be filled by the jug?



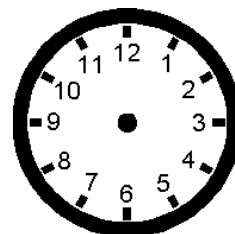
5. A regular milkshake is 50 ml.  
A large milkshake is 110 ml.  
How much bigger is the large shake?

6. If the regular milkshake was 60p  
and the large milkshake was £1.20,  
which would be better value?





### Time problems



1. How long is it from 10:30 to 1 o'clock?

2. How long is it from 9:15 o'clock to 11 o'clock?

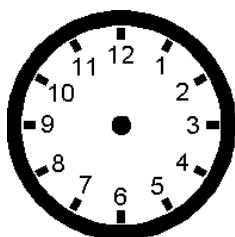
3. Andy got on a train at 3:15.  
The journey took 40 minutes.  
What time did he get off the train?

4. Neeta went to play rounders at 3:40.  
She played for half an hour.  
What time did she finish?

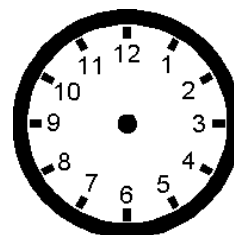
5. Pete took his dog for a walk at 8:40.  
He returned at 9:15.  
How long did it take him?

6. Gita went shopping at 10:20.  
She spent two and a half hours shopping.  
What time did she finish?

7. Dad put the pizza in the oven at 11:55.  
It was ready at 12:10.  
How long did it take to cook?



### Time problems



1. How long is it from 11:45 to 2 o'clock?

2. How long is it from 7:15 to 8:45?

3. Bruce boarded a plane at 3:15.  
The flight took 4 hours 15 minutes.  
What time did he get off the plane?

4. The film started at 4:20.  
It last 1 hour 40 minutes.  
What time did it finish?

5. Paul went swimming at 10:40.  
He returned at 12.50.  
For how long did he go swimming?

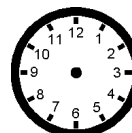
6. Tom went into Thorpe Park at 10:15.  
He spent five and a half hours there.  
What time did he leave?

7. Jo put the cakes in the oven at 10:50.  
They were ready at 11:30.  
How long did they take to cook?

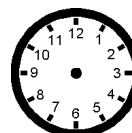
**Time problems**

**Draw the times on the clock faces:**

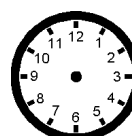
Terry got up at 8:20 in the morning.



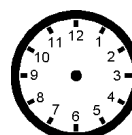
He had breakfast 20 minutes later.



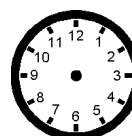
At 9:45 he caught the train to London.



The train reached London 40 minutes later.



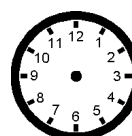
He went to Madame Tussaud's at 11:10.



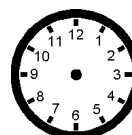
He left at 12:55. How long was he there?



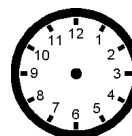
At 1:20 he had a burger and chips.



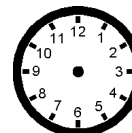
Half an hour later he went to Gamley's toy shop.



At 3:30 he returned to the station.



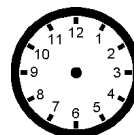
An hour later he was back home.



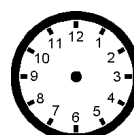
**Time problems**

**Draw the times on the clock faces:**

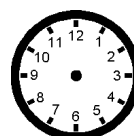
Rachel got up at 4:30 in the morning.



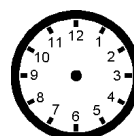
40 minutes later she got in a taxi.



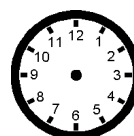
She arrived at Gatwick airport at 6:00.



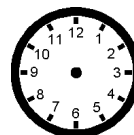
She spent 50 minutes looking round the shops.



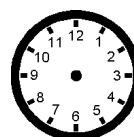
At 8:40 the plane took off to Alicante.



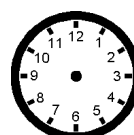
The flight lasted 2 hours 10 minutes.



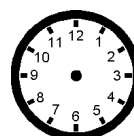
At 12:45 she arrived at her hotel.



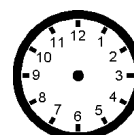
20 minutes later she was in the swimming pool.



She stayed there until 4:15.



Half an hour later she went to the cafe.



## Answers

## Page 3

1. 77 cm    2. 9 cm    3. 4    4. 10 cm    5. 80 cm    6. 20 cm    7. 2 cm

## Page 4

**1.** 78 cm    **2.** 6 cm    **3.** 3    **4.** 120 cm    **5.** 4 strips    **6.** 5 strips    **7.** 30cm or 1 strip

## Page 5

1. 1 000g or 1 kg      2. 300 g      3. 1 000 g or 1 kg      4. 600 g  
5. 400 g      6. 800 g      7. 900 g      8. 700 g

## Page 6

1. 750 g                      2. 600 g                      3. 800 g                      4. 800 g  
5. 900 g                      6. 850 g                      7. 900 g                      8. 150 g

## Page 7

**1. 9**      **2. 12**      **3. 10**      **4. 16**      **5. 40 ml**      **6. regular**

## Page 8

**1.7      2.16      3.8      4.12      5.60 ml      6.large**

## Page 9

1. 2 hours 30 mins or 150 mins      2. 1 hour 45 mins or 105 mins      3. 3:55  
4. 4:10      5. 35 mins      6. 12:50      7. 15 mins

## Page 10

1. 2 hours 15 mins or 135 mins      2. 1 hour 30 mins or 90 mins      3. 7:30  
4. 6:00      5. 2 hours 10 minutes or 130 mins      6. 3:45      7. 40 mins

## Page 11

**Clock faces showing:**

8:20   8:40   9:45   10:25   11:10   (1 hour 45)   1:20   1:50   3:30   4:30

## Page 11

**Clock faces showing:**

4:30    5:10    6:00    6:50    8:40    10:50    12:45    1:05 or 13:05    4:15    4:45