

# REASONING

## 8ER16

First name \_\_\_\_\_

Last name \_\_\_\_\_

School \_\_\_\_\_

Class \_\_\_\_\_

Date of birth ○○ ○○ ○○○○

Date of test ○○ ○○ 2016

Total score  (maximum 20)



139145



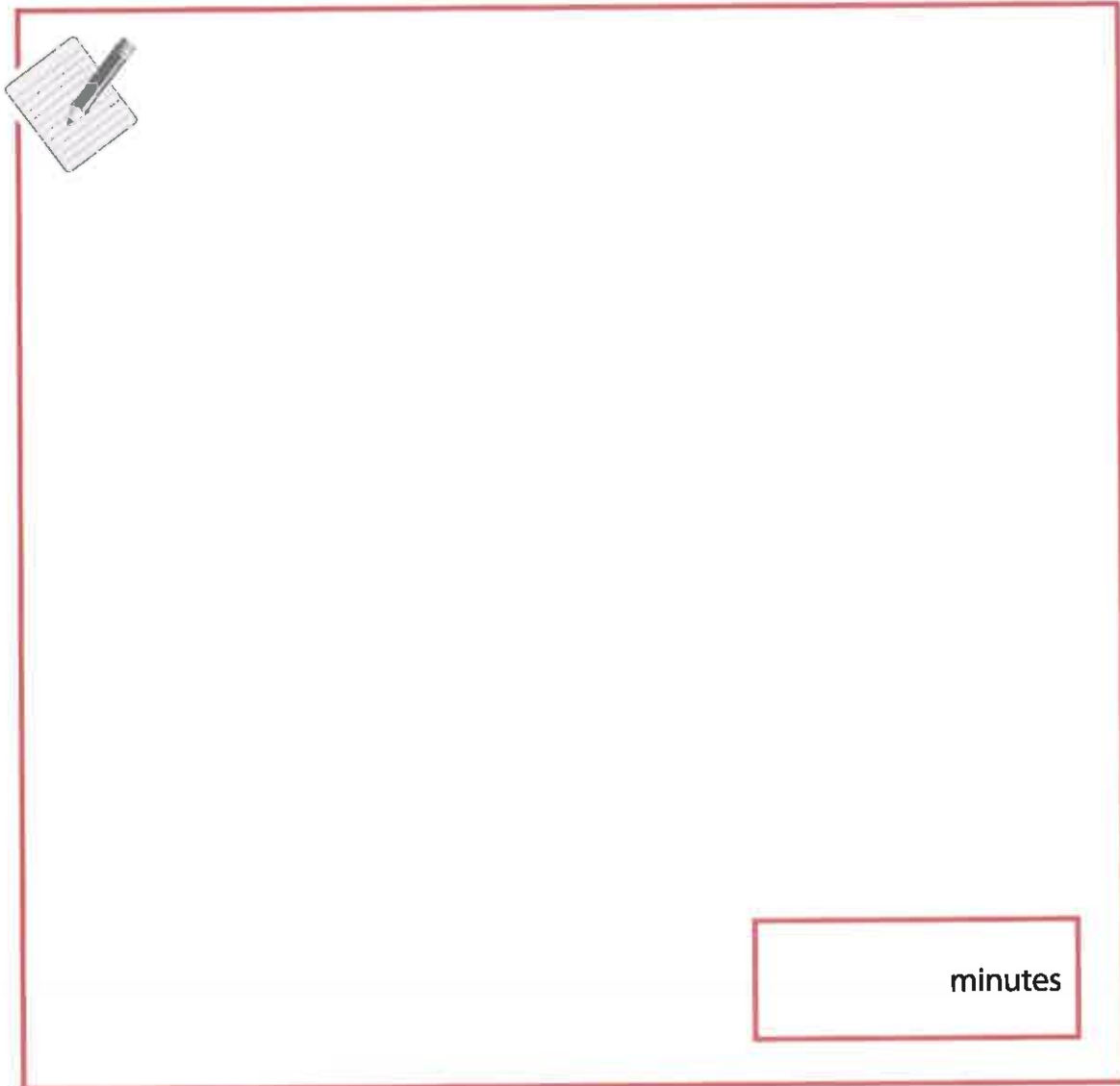
Llywodraeth Cymru  
Welsh Government

1 To answer this question you will need to use **all** the information on the next page.

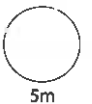
The four dancers are on the special floor.

For how many **minutes** do they need to dance to charge the phone?

You **must** show how you work it out.

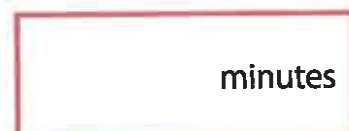


minutes

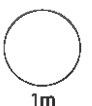


Suppose the dancers could **double** the number of joules per second.

Then how many minutes would it take them to charge the phone?



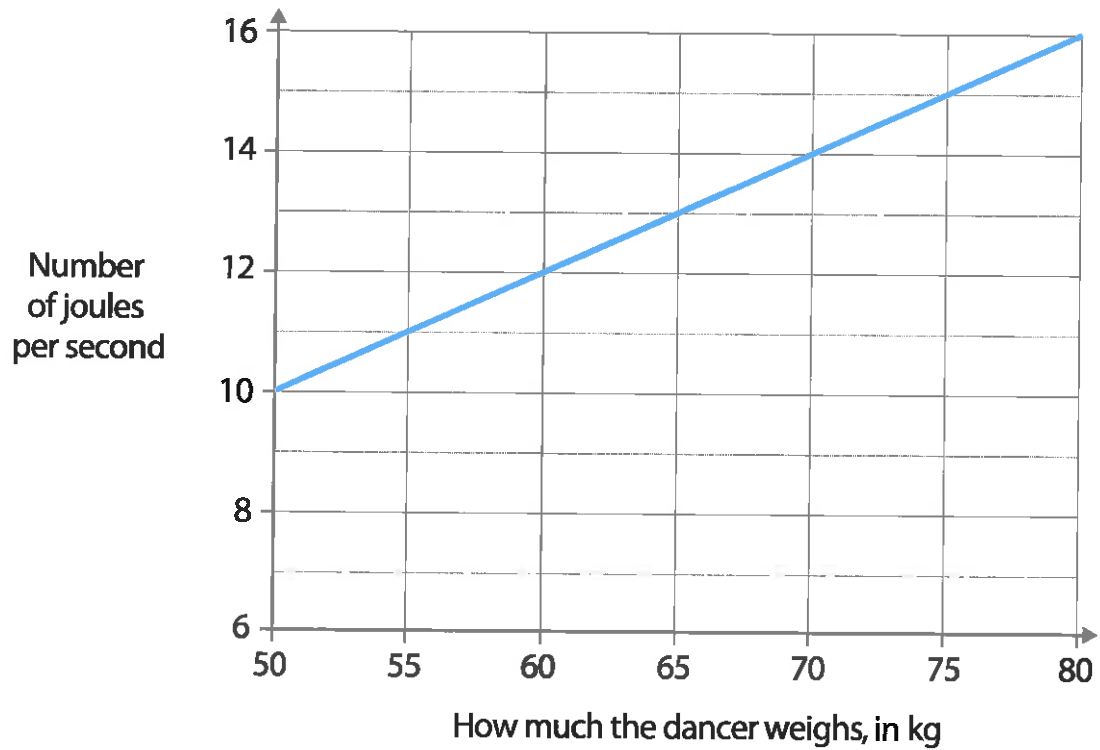
minutes



**What each dancer weighs:**



**How many joules a dancer generates in one second**



**The phone:**


The phone needs 12 000 joules to charge.



2 The big parcel weighs 4 times as much as the small parcel.

Together they weigh 1500 grams.

How much does each parcel weigh?



grams and grams

2m

3 Sahar writes party invitations. She makes a mistake!

On 11th July 2016 she will be 6 years old.

How old would she be if she lived until 11th July 20016?



years old

2m

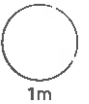
4 Multiples of 5 have a final digit that is either 0 or 5

Gareth thinks of a multiple of 4

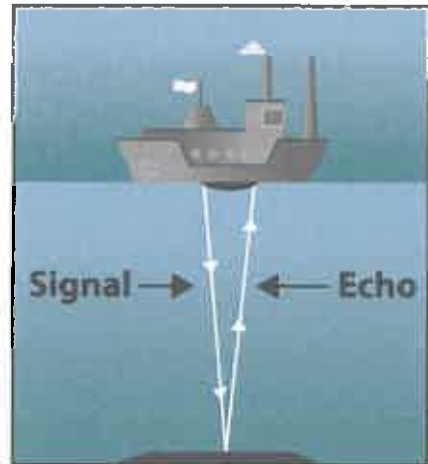
What could its final digit be?

Circle all the possible answers.

0 1 2 3 4 5 6 7 8 9



5 Scientists use sonar to find how deep oceans are.



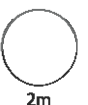
Scientists send a sonar signal from the boat.

14 seconds later they hear the echo.

In water, sonar signals travel about **1500 metres** every second.

How many **kilometres** deep is this part of the ocean?





TOTAL



6

This is a gingerbread house.



The roof of this 'house' is made from **two rectangles** of biscuit, each 20cm by 18cm.

On **each cm<sup>2</sup>** of the roof there will be 1 small sweet.

There are 75 small sweets in one pack.

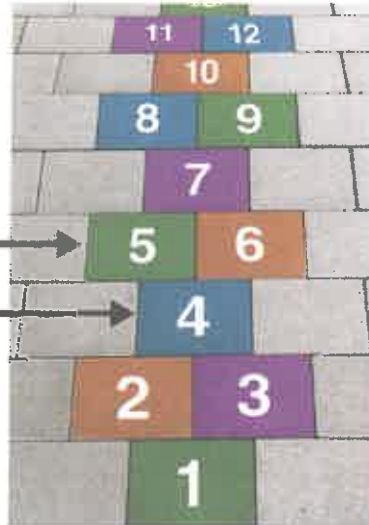
How many packs are needed for the roof?

You **must** show how you work it out.

packs

3m

7 Hopscotch pattern:



Some numbers are side by side.

Some numbers are on their own.

The pattern continues.

Work out which numbers between 110 and 150 are blue **and** on their own.

Show how you work it out.

A large red-bordered box for working out the answer. In the top left corner, there is a small icon of a notepad and a pencil. At the bottom right of the box, there is a smaller red-bordered box for the final answer.

