

**The Christmas Box Appeal: How far, how much, how many…**

Rich runs the Christmas Box Appeal and needs to work out some statistics. Can you help?

**Some statistics Rich already knows.** Choose the correct statistics to help answer the questions below.

* Number of schools who joined the appeal last year: **110**
* Number of Christmas box assemblies: **45**
* Total number of miles for school assemblies: **647**
* Average number of miles for collecting Christmas boxes from one school: **17**

**1. How far did Rich and his friend Heather travel (in miles) for each school to cover assemblies for last year’s Christmas Box Appeal?** (Find the average). It takes about 20 minutes to walk one mile - if you’re not in a hurry!

Assemblies held: \_\_\_\_\_\_\_\_\_\_\_

Working:

Total miles for school assembly: \_\_\_\_\_\_\_\_\_\_ miles

**Average distance covered:** \_\_\_\_\_\_\_\_\_\_\_ miles

Rich and Heather used their cars!

**2. How much fuel (in gallons) did it take to collect Christmas boxes from all the schools that joined in the appeal last year?**

Working:

Schools: \_\_\_\_\_\_\_\_\_\_\_

Average distance travelled for one school collection:   
\_\_\_\_\_\_\_\_\_\_\_\_\_ miles

Total number of miles to collect Christmas boxes   
from all the schools: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ miles

The van travels 25 miles for every gallon of fuel

that it uses (25mpg).

**Total fuel used:** \_\_\_\_\_\_\_\_\_\_ gallons

**Some more statistics**

* Time it takes to check, sort & pack (check) one Christmas box: **9 minutes** (average)
* Highest number of boxes collected in best year: **11,724**
* Number of Christmas boxes in a large cardboard case: **10**

**3. How long would it take just one person to check *every* Christmas box?**

Working:

Number of boxes: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Time it takes to check one box: \_\_\_\_\_\_\_ minutes

**Total number of minutes to check all the**

**boxes:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ minutes

Can you change that number to hours, or days?

\_\_\_\_\_\_\_\_\_\_\_\_ hours

\_\_\_\_\_\_\_\_ days and \_\_\_\_\_\_\_ hours

Thankfully, we have lots of volunteers to help sort all

the boxes, so it only takes a few days.

**4. How big does a lorry have to be to fit 10,000 Christmas boxes inside it?**

**(**Find the volume)

Rich needs to know if he can fit all the Christmas boxes on one lorry. To do this he needs to measure the amount of space 10,000 Christmas boxes take up once they have been packed into their special cardboard travel cases.

One way we measure the amount of space, or volume, something has inside it, is by using cubic metres (m3). So, let’s try and work out how many m3 the lorry must have.

If a Christmas box case is 48cm long x 48cm wide x 48cm high (you could say 50cm each,

or half a metre). How many cases could fit in a space, or volume, of one cubic metre?

Remember: a cubic meter is 1m long x 1m wide x 1m high. *You might need to use a separate sheet for your working.*

**Amount of cases in one m3 of volume:** \_\_\_\_\_\_\_\_\_ cases

Working:

Number of Christmas boxes in one large case:

\_\_\_\_\_\_\_\_\_ boxes

**Amount of space or volume the lorry needs:**

\_\_\_\_\_\_\_\_\_\_\_ m3

***Well done if you worked out all the correct answers!*** FSCI (UK) is a Registered Charity in England & Wales (No.1170914)