7DBl Homework Sheet 4

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A rough guide as to how the marks are given is as follows:

		Effort Grade		Achievement of task
A	Excellent	this effort grade will rarely be given – to get this mark the work must demonstrate great effort and real clarity	+	Excellent understanding of the work
B	Good	will be given e.g. when a lot of effort has obviously been put into the work or when the work is very clearly set out	=	Good understanding of the work
C	Average	will be given for work which is of a satisfactory, acceptable standard; if you get less than C you must improve the standard at once!	−	Poor understanding of the work
D	Poor			
E	Very Poor			

If a question has one or a number of * before it then it contains points which are inherently difficult and which will be met more generally in subsequent years.

Don't forget to do your homework in the **back** of your exercise book!

6 On forces

a. Write down 5 sentences describing forces which you encounter in everyday life.

b. One newton (written as 1 N) is the force needed to lift a mass of 100 g on the Earth. Estimate the size of force (in N) needed to:

   i. Open a car door.

   ii. Lift you.

   iii. Push a shopping trolley.

   iv. *Throw a cricket ball.

c. Find out what the force of *friction* does, and *try to explain how it comes about.

d. Which surface in your house would have...

   i. ...the least friction?

   ii. ...the most friction?

7 On speed, distance and time

a. Give as many different units as you can that the following quantities can be measured in (try three for each as a minimum):

   i. Distance (or length)

   ii. Area

   iii. Time

   iv. Speed

b. Guess the following speeds as accurately as you can. You can use any units you like for each one, but remember to include a unit with each so I know what you mean.

   i. Walking speed

   ii. A cargo ship

   iii. A fast jet aeroplane

   iv. A snail's pace

   v. Average speed of a Chester–London train

c. Write down two more speeds and their values (with units!) which you know or could find out. Be as imaginative as you can!

d. If a car travels 270 km along a (very long) motorway in 3 hours, what is its average speed during this journey in kilometres per hour (km/h)?