

## Q1. (2019)

- 23** In one hour a machine can make  
600 nuts  
or  
720 bolts.

At 3 pm the machine starts working.

It makes 900 nuts and then changes to making bolts.

How many **bolts** will the machine make by 8 pm?

[4 marks]

## Q2. (2019)

- 24** Two solids, J and K, have the same density.

Complete the table.

Include units in your answers.

[3 marks]

|         | J                 | K    |
|---------|-------------------|------|
| Mass    | 48 g              | 78 g |
| Volume  | 8 cm <sup>3</sup> |      |
| Density |                   |      |

## Q3. (2021)

- 14** A machine takes 4 seconds to fill a packet of crisps.

(A)

- 14 (a)** In total, how many packets can 35 of these machines fill in 8 hours?

[4 marks]

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Answer \_\_\_\_\_

(B)

- 14 (b) Each packet of crisps contains 32.5 grams of crisps.

At what rate does a machine put the crisps into the packets?

Give your answer in grams per second.

[2 marks]

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Answer \_\_\_\_\_ grams per second

Q4. (2024)

- 22 Kay hires a digger.

The cost per day is

- £24.50 for the first 5 days
- reduced by 20% for day 6
- the same as day 6 for day 7 onwards.

The **total** cost is £259.70

For how many days did Kay hire the digger?

You **must** show your working.

[5 marks]