Name	Class

MATHS TEACHER HUB

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Proportion

(9 – 1) Topic booklet

Higher

These questions have been collated from previous years GCSE Mathematics papers.

You must have: Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser.	Total Marks

Instructions

•Use **black** ink or ball-point pen.
•**Fill in the boxes** at the top of this page with your name, centre number and candidate number.
•Answer **all** questions.
•Answer the questions in the spaces provided
– *there may be more space than you need*.
•Diagrams are NOT accurately drawn, unless otherwise indicated.
•You must **show all your working out.**
•If the question is a **1H** question you are not allowed to use a calculator.
•If the question is a **2H** or a **3H** question, you may use a calculator to help you answer.

Information

•The marks for **each** question are shown in brackets
– *use this as a guide as to how much time to spend on each question*.

Advice

•Read each question carefully before you start to answer it.
•Keep an eye on the time.
•Try to answer every question.
•Check your answers if you have time at the end.

Answer ALL questions
Write your answers in the space provided.
You must write down all the stages in your working.

4 It would take 120 minutes to fill a swimming pool using water from 5 taps.

(a) How many minutes will it take to fill the pool if only 3 of the taps are used?

..... minutes

(2)

(b) State one assumption you made in working out your answer to part (a).

.....

.....

(1)

November 2018 – Paper 1H **(Total for Question 4 is 3 marks)**

4 It takes 14 hours for 5 identical pumps to fill a water tank.

How many hours would it take 4 of these pumps to fill another water tank of the same size?

..... hours

June 2023 – Paper 3H **(Total for Question 4 is 2 marks)**

9 On Monday, 12 people took 5 hours to clean a number of cars.
On Tuesday, 15 people cleaned the same number of cars.

Assuming that all the people worked at the same rate,

(a) work out how many hours the 15 people took to clean the cars.

..... hours

(2)

The assumption is wrong.

(b) How might this affect the time taken for the 15 people to clean the cars?

.....

.....

.....

(1)

November 2021 – Paper 3H **(Total for Question 9 is 3 marks)**

9 A company has to make a large number of boxes.

The company has 6 machines.
All the machines work at the same rate.
When all the machines are working, they can make all the boxes in 9 days.

The table gives the number of machines working each day.

	day 1	day 2	day 3	all other days
Number of machines working	3	4	5	6

Work out the total number of days taken to make all the boxes.

.....

June 2019 – Paper 3H **(Total for Question 9 is 3 marks)**

9 Yesterday it took 5 cleaners $4\frac{1}{2}$ hours to clean all the rooms in a hotel.

There are only 3 cleaners to clean all the rooms in the hotel today.

Each cleaner is paid £8.20 for each hour or part of an hour they work.

How much will each cleaner be paid today?

£ .....

November 2017 – Paper 2H **(Total for Question 9 is 3 marks)**

11 Kieron has 13 workers he can use for a job.

He knows that 6 workers would take $14\frac{1}{2}$ days to complete this job.

Show that Kieron has enough workers to finish this job in less than 7 days.

(Total for Question 11 is 3 marks)