Name ANSWERS	Class

MATHS TEACHER HUB

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Direct and indirect proportion

(9 – 1) Topic booklet

Foundation

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 **1F** question you are not allowed to use a calculator.
- If the question is a **2F** or a **3F** 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.

8 3 kg of meat costs £54
Nina buys 2 kg of the meat.

Work out how much Nina pays.

$3\overline{)54}$ = 18

1kg = £18

2kg = £36

£ 36

May 2018 – Paper 1F **(Total for Question 8 is 2 marks)**

8 8 identical pens cost £12
Work out the cost of 10 of these pens.

$8\overline{)12.0}$ = 1.5

1 pen = £1.50

10 pens = £15.00

£ 15

Specimen 2 – Paper 1F **(Total for Question 8 is 2 marks)**

12 2.5 kg of apples cost £3.60

Work out the cost of 3.5 kg of apples.

2.5 kg = £3.60

÷2.5 → 1 kg = £1.44

×3.5 → 3.5 kg = £5.04

£ 5.04

November 2017 – Paper 3F **(Total for Question 12 is 2 marks)**

12 Ibrar buys 3 kg of apples. → 3kg of apples = £5.85

He also buys 0.4 kg of mushrooms.

The total cost is £6.93

1 kg of apples cost £1.95

Work out the cost of 1 kg of mushrooms.

£6.93 − £5.85 = £1.08

0.4kg = £1.08

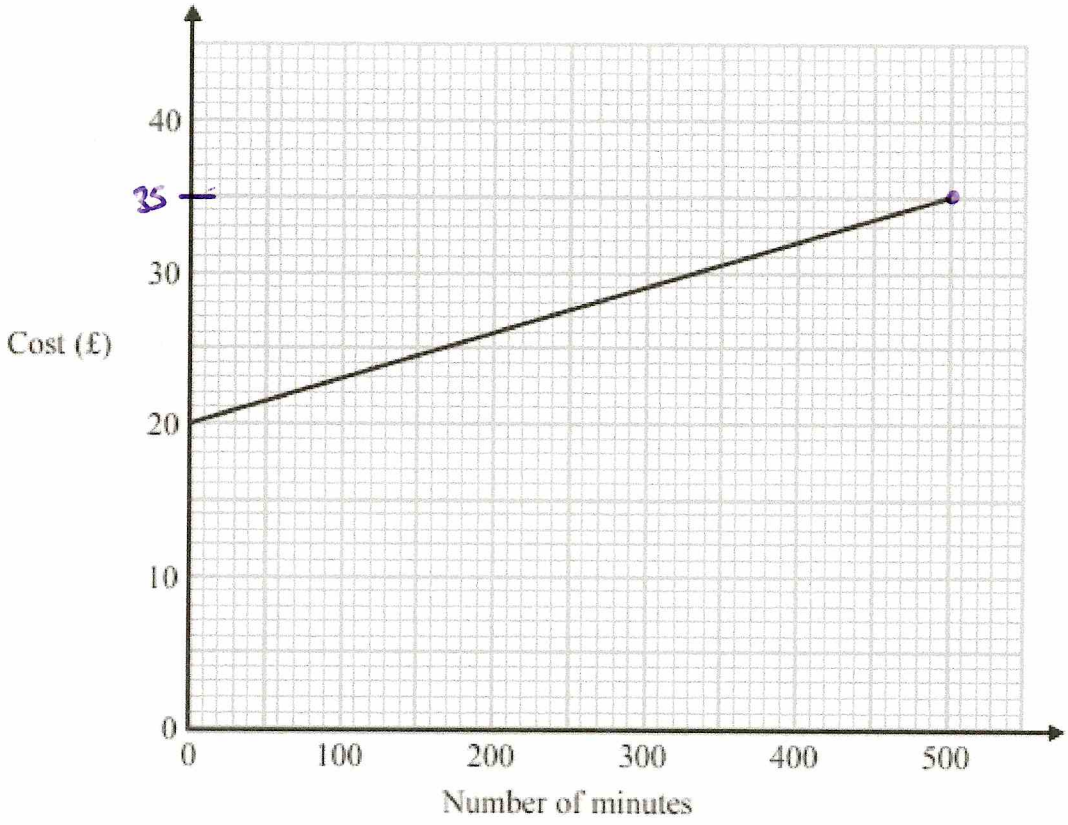
÷4 → 0.1kg = £0.27

×10 → 1kg = £2.70

£ 2.70

Specimen 2 – Paper 3F **(Total for Question 12 is 3 marks)**

14 The graph shows the cost of using a mobile phone for one month for different numbers of minutes of calls made.



The cost includes a fixed rental charge of £20 and a charge for each minute of calls made.

Work out the charge for each minute of calls made.

500 minutes = £15

1 minute = $\frac{£15}{500}$

= £0.03

3p

(Total for Question 14 is 2 marks)

14 The total weight of 3 tins of beans and 4 jars of jam is 2080 g.
The total weight of 5 tins of beans is 2000 g.

Work out the weight of 1 tin of beans and the weight of 1 jar of jam.

1 tin of beans = 400g

3 tins of beans + 4 jars of jam = 2080g

1200g

4 jars of jam = 880g

1 jar of jam = 220g

tin of beans 400 g

jar of jam 220 g

Sample 1 – Paper 3F **(Total for Question 14 is 4 marks)**

17 5 tins of soup have a total weight of 1750 grams.
4 tins of soup and 3 packets of soup have a total weight of 1490 grams.

Work out the total weight of 3 tins of soup and 2 packets of soup.

$$5\overline{)1750} = 350$$

1 tin of soup $= \frac{1750}{5} = 350g$

4 tins $= 1400g$

$$\begin{array}{r} 1490 \\ -\ 1400 \\ \hline 0090 \end{array}$$

3 packets of soup $= 90p$

1 packet of soup $= 30p$

3 tins + 2 packets

$1050 + 60 = 1110g$

1110 grams

(Total for Question 17 is 4 marks)

25 A company orders a large number of plates from a factory.

It would take 30 hours to make all the plates using 4 machines.

How many machines are needed to make all the plates in 6 hours?

4 machines = 30 hours

1 machine = 120 hours

20 machines = 6 hours

6

(Total for Question 25 is 2 marks)