

WJEC GCSE MATHS • GRADE 5

MATHS



EXAM QUESTION PACK

MULTIPLE RATES

SCORE

/92

PERCENTAGE

%

STEMUP

- 1 Callum earns £64,000 a year.
The first £12,570 of income is tax-free (the personal allowance).
Income above £12,570 and up to £50,000 is taxed at 20%.
Income above £50,000 is taxed at 40%.
Work out the amount of tax he pays at the higher rate.

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- 2 Two companies offer a mobile data tariff each month.
Tariff A: £5 per month plus £0.18 per GB.
Tariff B: £12 per month plus £0.14 per GB.
Sam uses 8 GB in a month.
Which tariff is cheaper for Sam, and by how much?

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- 3 A car park charges as follows. Part of an hour is charged as a whole hour.
First hour: £3.
Hours 2 to 4: £1.50 per hour.
After 4 hours: £1 per hour.
Maximum charge for one day: £14.
Iolo parks for 7 hours 30 minutes.
Work out the charge.

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- 4 Callum earns £84,000 a year.
The first £12,500 of income is tax-free (the personal allowance).
Income above £12,500 and up to £40,000 is taxed at 20%.
Income above £40,000 is taxed at 40%.
Work out the amount of tax he pays at the higher rate.

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- 5 Two companies offer a mobile data tariff each month.
Tariff A: £4 per month plus £0.19 per GB.
Tariff B: £10 per month plus £0.14 per GB.
Sam uses 15 GB in a month.
Which tariff is cheaper for Sam, and by how much?

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- 6 A car park charges as follows. Part of an hour is charged as a whole hour.
First hour: £3.50.
Hours 2 to 4: £2 per hour.
After 4 hours: £1.20 per hour.
Maximum charge for one day: £10.
Gwen parks for 4 hours 10 minutes.
Work out the charge.

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- 7 A printer charges for custom notebooks in bands.
The first 50 cost £5 each.
The next 100 cost £4.40 each.
Any more cost £3.90 each.
A school orders 230 notebooks.
Work out the total cost.

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- 8 Sasha earns £74,270 a year.
National Insurance (NI) is charged at 8% on earnings between £12,570 and £50,270, and at 2% on earnings above £50,270.
Work out the NI she pays in the year.

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- 9 A phone plan costs £15 per month and includes 5 GB of data.
The next 3 GB of data cost £2 per GB.
Any more data costs £1 per GB.
The most that can be charged in a month is £35.
Sam uses 11 GB of data in one month.
Work out the amount he is charged.
You must show all your working.

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- 10** Owen's basic rate of pay is £10 per hour.
On Saturdays he is paid time and a quarter.
On Sundays he is paid double time.
One week Owen works 35 hours Monday to Friday, 4 hours on Saturday and 3 hours on Sunday.
Work out his total pay for the week.
You must show all your working.

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- 11** Aled earns £77,500 a year.
National Insurance (NI) is charged at 8% on earnings between £12,000 and £50,000, and at 2% on earnings above £50,000.
Work out the NI he pays in the year.

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- 12** A phone plan costs £18 per month and includes 3 GB of data.
The next 3 GB of data cost £2 per GB.
Any more data costs £1.50 per GB.
The most that can be charged in a month is £36.
Mari uses 5 GB of data in one month.
Work out the amount she is charged.
You must show all your working.

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- 13** Megan's basic rate of pay is £13.80 per hour.
On Saturdays she is paid time and a quarter.
On Sundays she is paid double time.
One week Megan works 30 hours Monday to Friday, 4 hours on Saturday and 3 hours on Sunday.
Work out her total pay for the week.
You must show all your working.

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- 14** In Wales, Land Transaction Tax is paid when a house is bought. The tax is charged on each part of the price at the rate shown.
Rhian buys a house for £640,000.
Work out the Land Transaction Tax she pays.

Land Transaction Tax

Part of the price	Rate
Up to £225,000	0%
£225,001 to £400,000	6%
£400,001 to £750,000	7.5%
£750,001 to £1,500,000	10%
Over £1,500,000	12%

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- 15** A phone plan costs £12 per month and includes 2 GB of data.
The next 2 GB of data cost £2.50 per GB.
Any more data costs £1.50 per GB.
The most that can be charged in a month is £27.
Sian uses 8 GB of data in one month.
Work out the amount she is charged.
You must show all your working.

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- 16** Sian earns £73,000 a year.
The first £13,000 of income is tax-free (the personal allowance).
Income above £13,000 and up to £45,000 is taxed at 19%.
Income above £45,000 is taxed at 38%.
Work out the income tax she pays as a percentage of her income.
Give your answer correct to 1 decimal place.

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- 17** Bethan earns £212,000 a year.
The first £12,570 of income is tax-free (the personal allowance).
Income above £12,570 and up to £50,000 is taxed at 20%.
Income above £50,000 and up to £150,000 is taxed at 40%.
Income above £150,000 is taxed at 45%.
Assume the personal allowance is the same at all incomes.
Work out the total income tax she pays in the year.
You must show all your working.

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- 18** A phone plan costs £12 per month and includes 3 GB of data.
The next 3 GB of data cost £2.50 per GB.
Any more data costs £1.50 per GB.
The most that can be charged in a month is £32.
Owen uses 9 GB of data in one month.
Work out the amount he is charged.
You must show all your working.

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- 19** Mari earns £64,500 a year.
The first £12,570 of income is tax-free (the personal allowance).
Income above £12,570 and up to £50,000 is taxed at 20%.
Income above £50,000 is taxed at 40%.
Work out the income tax she pays as a percentage of her income.
Give your answer correct to 1 decimal place.

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- 20** The price of a game increased by 20%, then the new price decreased by 15%.
Work out the overall percentage change in the price.
State whether it is an increase or a decrease.

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- 21** A phone plan costs £18 per month and includes 3 GB of data.
The next 2 GB of data cost £2 per GB.
Any more data costs £1 per GB.
The most that can be charged in a month is £38.
Nia uses 8 GB of data in one month.
Work out the amount she is charged.
You must show all your working.

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- 22 Sian earns £134,000 a year.
The first £12,570 of income is tax-free (the personal allowance).
Income above £12,570 and up to £45,000 is taxed at 20%.
Income above £45,000 and up to £100,000 is taxed at 40%.
Income above £100,000 is taxed at 50%.
Assume the personal allowance is the same at all incomes.
Work out the total income tax she pays in the year.
You must show all your working.

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- 23 In Wales, Land Transaction Tax is paid when a house is bought. The tax is charged on each part of the price at the rate shown.
Dafydd buys a house for £280,000.
Work out the Land Transaction Tax he pays.

Land Transaction Tax

Part of the price	Rate
Up to £225,000	0%
£225,001 to £400,000	6%
£400,001 to £750,000	7.5%
£750,001 to £1,500,000	10%
Over £1,500,000	12%

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- 24 A phone plan costs £15 per month and includes 3 GB of data.
The next 3 GB of data cost £2 per GB.
Any more data costs £1.50 per GB.
The most that can be charged in a month is £30.
Ioan uses 8 GB of data in one month.
Work out the amount he is charged.
You must show all your working.

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- 25 The price of a game decreased by 10%, then the new price decreased by 20%.
Work out the overall percentage change in the price.
State whether it is an increase or a decrease.

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- 26 A printer charges for custom bags in bands.
The first 100 cost £4 each.
The next 200 cost £3.60 each.
Any more cost £3.10 each.
A school orders 450 bags.
Work out the average cost of each of the bags, to the nearest penny.
You must show your working.

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- 27 A phone plan costs £10 per month and includes 3 GB of data.
The next 2 GB of data cost £2.50 per GB.
Any more data costs £1 per GB.
The most that can be charged in a month is £22.
Iolo uses 8 GB of data in one month.
Work out the amount he is charged.
You must show all your working.

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- 28** The price of a game decreased by 25%, then the new price increased by 40%.
Work out the overall percentage change in the price.
State whether it is an increase or a decrease.

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- 29** A taxi company charges £3.20 plus £1.80 for each of the first 2 miles.
After 2 miles the charge is £1.60 for each extra mile.
Rhian pays £16.40 for a journey.
How many miles was the journey?
You must show your working.

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- 30** The value of a painting rises by 4% each year for 2 years.
After 2 years it is worth £216.32.
Work out its value at the start.

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- 31** Leah's salary rises from £49,020 to £51,520 a year.
Income tax: the first £12,570 is tax-free, 20% on the next £37,700 and 40% on income above £50,270.

Work out how much more income tax she pays each year after the rise.

You must show all your working.

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- 32** A taxi company charges £3.80 plus £2 for each of the first 3 miles.
After 3 miles the charge is £1.30 for each extra mile.
Sam pays £21.50 for a journey.
How many miles was the journey?
You must show your working.

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- 33** £3,000 is invested in an account.
For 3 years the interest rate is 3% a year. For the next 2 years the interest rate is 2.5% a year.
Interest is added to the account at the end of each year.
Work out the amount in the account at the end of the 5 years.
Give your answer to the nearest penny.

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- 34** A supplier charges for gas in three bands.
The first 100 kWh cost 32p per kWh.
The next 200 kWh cost 27p per kWh.
Any further kWh cost 22p per kWh.
Gwen's bill is £165.20.
Work out the number of kWh she uses.
You must show all your working.

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- 35** Elin earns £69,270 a year.
Income tax: the first £12,570 is tax-free, 20% on the next £37,700 and 40% on income above £50,270.
National Insurance: 8% on earnings between £12,570 and £50,270 and 2% on earnings above £50,270.
Work out her income each month after income tax and National Insurance have been paid.
You must show all your working.

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- 36** £5,000 is invested in an account.
For 2 years the interest rate is 5% a year. For the next 2 years the interest rate is 2.5% a year.
Interest is added to the account at the end of each year.
Work out the amount in the account at the end of the 4 years.
Give your answer to the nearest penny.

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- 37** Lowri's basic rate of pay is £12.60 per hour.
On Saturdays she is paid time and a quarter.
On Sundays she is paid double time.
One week Lowri works 35 hours Monday to Friday, 8 hours on Saturday and 3 hours on Sunday.
Work out her average pay per hour for the week, to the nearest penny.
You must show all your working.

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- 38** A supplier charges for water in three bands.
The first 25 cubic metres cost £3 per cubic metre.
The next 50 cubic metres cost £2.50 per cubic metre.
Any further cubic metres cost £1.90 per cubic metre.
Gwen's bill is £219.
Work out the number of cubic metres she uses.
You must show all your working.

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- 39** Gwen earns £76,770 a year.
Income tax: the first £12,570 is tax-free, 20% on the next £37,700 and 40% on income above £50,270.
National Insurance: 8% on earnings between £12,570 and £50,270 and 2% on earnings above £50,270.
Work out her income each month after income tax and National Insurance have been paid.
You must show all your working.

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- 40** £4,000 is invested in an account.
For 2 years the interest rate is 5% a year. For the next 2 years the interest rate is 2.5% a year.
Interest is added to the account at the end of each year.
Work out the amount in the account at the end of the 4 years.
Give your answer to the nearest penny.

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- 41** Dylan pays £9,854 income tax in a year.
The first £13,000 of income is tax-free (the personal allowance).
Income above £13,000 and up to £50,270 is taxed at 20%.
Income above £50,270 is taxed at 40%.
Work out his income for the year.
You must show all your working.

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- 42** Osian earns £56,000 a year and pays £9,900 income tax.
The first £12,500 is tax-free. The next £37,500 is taxed at 20%. Income above £50,000 is taxed at a higher rate.
Work out the higher rate of tax, as a percentage.
You must show all your working.

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- 43 Bethan has a salary of £55,000.
She pays £12,875 income tax in a year.
Basic rate of 25% is payable on income above the personal allowance and up to £45,000.
Higher rate of 45% is payable on income above £45,000.
Work out her personal allowance.
You must show all your working.

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- 44 Sasha pays £11,300 income tax in a year.
The first £12,500 of income is tax-free (the personal allowance).
Income above £12,500 and up to £40,000 is taxed at 20%.
Income above £40,000 is taxed at 40%.
Work out her income for the year.
You must show all your working.

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- 45 Nia earns £61,000 a year and pays £12,986 income tax.
The first £12,570 is tax-free. The next £37,430 is taxed at 20%. Income above £50,000 is taxed at a higher rate.
Work out the higher rate of tax, as a percentage.
You must show all your working.

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- 46** Dafydd has a salary of £46,000.
He pays £9,450 income tax in a year.
Basic rate of 25% is payable on income above the personal allowance and up to £40,000.
Higher rate of 45% is payable on income above £40,000.
Work out his personal allowance.
You must show all your working.

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- 47** Dafydd pays £12,540 income tax in a year.
The first £12,000 of income is tax-free (the personal allowance).
Income above £12,000 and up to £50,000 is taxed at 19%.
Income above £50,000 is taxed at 38%.
Work out his income for the year.
You must show all your working.

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- 48** The price of a coat is increased by 15%. Later, the new price is reduced by 10%.
The final price is £124.20.
Work out the original price of the coat.

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- 49** Sasha has a salary of £56,000.
She pays £10,000 income tax in a year.
Basic rate of 20% is payable on income above the personal allowance and up to £50,000.
Higher rate of 40% is payable on income above £50,000.
Work out her personal allowance.
You must show all your working.

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- 50** Priya's salary rises from £48,520 to £52,520 a year.
Income tax: the first £12,570 is tax-free, 20% on the next £37,700 and 40% on income above £50,270.
Work out the percentage of the pay rise that she keeps after the extra income tax is paid.
Give your answer to the nearest whole number.

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