National 5 Lifeskills Past Paper Questions

Numeracy

Section 1: Numerical Skills

Selecting and using appropriate numerical notation and units.

This topic is treated slightly differently at National 5; therefore there are no equivalent questions.

Selecting and carrying out calculations.

Last year, 1296 learner drivers from "Topflight" school of motoring passed their driving test.

This was 72% of those who sat their driving test from Topflight.

How many **failed** their driving test?

Jack weighs 94 kilograms.

On the 1st of January, he starts a diet which is designed to reduce his weight by 7% per month.

During which month should he achieve his target weight of 73 kilograms?

Show all your working.

There are 2·69 million vehicles in Scotland.

It is estimated that this number will increase at a rate of 4% each year.

If this estimate is correct, how many vehicles will there be in 3 years' time?

Give your answer **correct to 3 significant figures**.

The price for Paul's summer holiday is £894·40.

The price includes a 4% booking fee.

What is the price of his holiday without the booking fee?

Olga normally runs a total distance of 28 miles per week.

She decides to increase her distance by 10% a week for the next four weeks.

How many miles will she run in the fourth week?

A car is valued at £3780.

This is 16% less than last year's value.

What was the value of the car last year?

Tom and Samia are paid the same hourly rate.

Harry is paid $\frac{1}{3}$ more per hour than Tom.

Tom worked 15 hours, Samia worked 8 hours and Harry worked 12 hours.

They were paid a total of £429.

How much was Tom paid?

A snail crawls 3 kilometres in 16 days.

What is the average speed of the snail in metres per second?

Give your answer **in scientific notation correct to 2 significant figures**.

A company buys machinery worth £750 000.

The value of the machinery depreciates by 20% per annum.

The machinery will be replaced at the end of the year in which its value falls below half of its original value.

After how many years should the machinery be replaced?

You must explain your answer.

It is estimated that house prices will increase at the rate of 3·15% per annum.

A house is valued at £134 750. If its value increases at the predicted rate, calculate its value after 3 years.

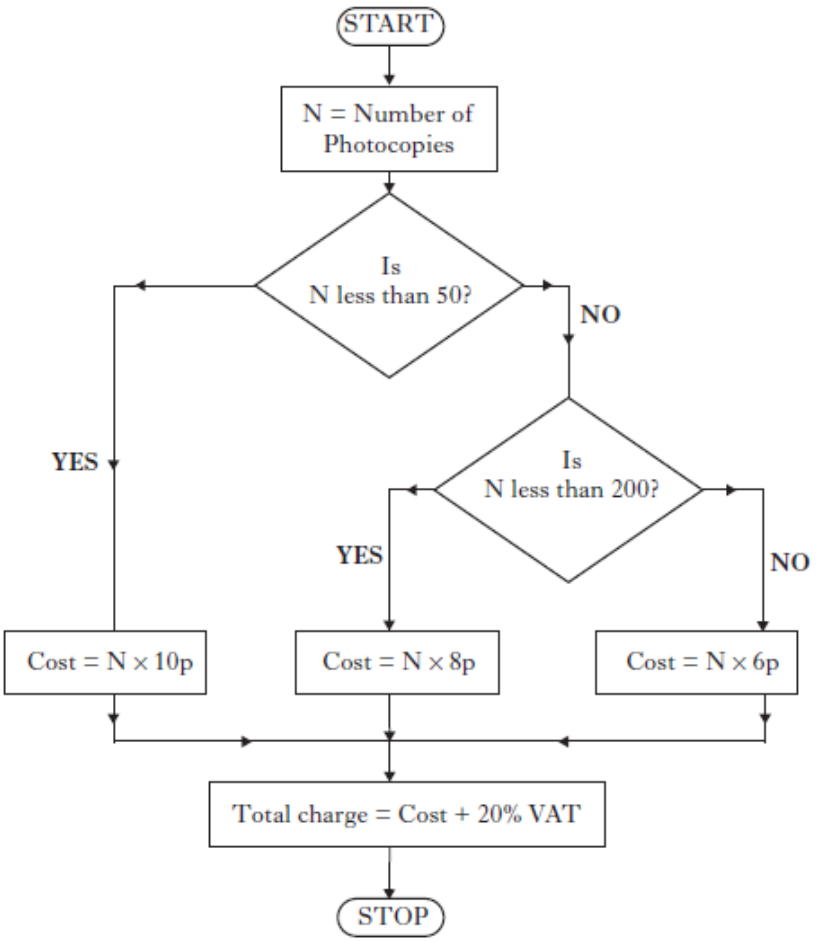
Give your answer correct to **four** significant figures.

The National Debt of the United Kingdom was recently calculated as

£1 157 818 887 139.

Round this amount to four significant figures.

Stationery Systems offers a photocopying service to its customers. The flowchart below shows how charges are calculated for any number of copies.



Use the flowchart to calculate the total charge for Kamran who makes 360 photocopies.

The Room Index is used to calculate the amount of light needed in a workroom.

The formula for the Room Index, R, is

$$R = \frac{LW}{H(L+W)}$$

where L metres is the length of the room,
W metres is the width of the room
and H metres is the height of the light above the work surface.

Calculate the Room Index for a workroom 4·4 metres long and 3·2 metres wide with the light 1·4 metres above the work surface.

Due to the threat of global warming, scientists recommended in 2010 that the emissions of greenhouse gases should be reduced by 50% by the year 2050.

The government decided to reduce the emissions of greenhouse gases by 15% **every ten years**, starting in the year 2010.

Will the scientists' recommendations have been achieved by 2050?

You must give a reason for your answer.

The approximate stopping distance of a car can be found by using the formula

$$D = \frac{1}{3}\left(S + \frac{S^2}{20}\right)$$

where D metres is the approximate stopping distance
and S miles per hour is the speed before braking.

Calculate the approximate stopping distance when the speed before braking is 30 miles per hour.

Recording measurements using a scale on an instrument.

This is a new skill/ topic at this level.

Interpreting measurements and the results of calculations to make decisions.

This is a new skill/ topic at this level.

Justifying decisions by using the results of measurements and calculations.

This is a new skill/ topic at this level.

Section 2: Interpret Graphical Data

Extracting and interpreting data from at least three different graphical forms.

This is a new skill/ topic at this level.

Making and justifying decisions using evidence from the interpretation of data.

Mike is practising his penalty kicks.
Last week, Mike scored 18 out of 30.
This week, he scored 16 out of 25.
Has his scoring rate improved?
Give a reason for your answer.

Making and justifying decisions based on probability.

150 patients have been given a flu vaccine.

The data is shown in the table below.

AGE	*GENDER*	
	male	*female*
5 or under	4	3
6 – 15	7	8
16 – 59	37	47
60 or over	12	32

What is the probability that

(*a*) a patient given the flu vaccine was male **and** aged 60 or over?

(*b*) a patient given the flu vaccine was aged 5 or under?