

Pre-assessment 1

Student Name: _____ **Course/Class** _____

I understand the conditions of this pre-assessment and the policy on plagiarism.
In signing, I declare that the evidence presented throughout the unit is my own work,
acknowledging all sources of reference and providing citation as appropriate.

Student Signature: _____ **Date:** _____

Assessment will show feedback from the lecturer and result.
Lecturer (assessor) will sign and record on register.

Result: _____ **Date:** _____

Unit Title: Numeracy at SCQF Level 5
Unit Code: F3GF 11

Conditions of Pre-Assessment (Assessment will be supervised)

Classroom (Open Book)	☐	Practical	☐
Classroom (Closed Book)	☒	Written	☒
Home-Based (Open Book)	☐	On-line	☐
Other	☐	Supervised	☐
Duration of Pre-Assessment:		Approx. 60 mins	
Resources Required:		Calculator, graph paper, ruler, compasses, protractor	
Pass Mark:		All responses correct	

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Unit Code: F3GF 11

QUESTION 1:

You work in Scotland and earn a gross salary of £89,358.05 per annum.

Using the fictional (for the purpose of this Pre-Assessment) tax bands, calculate the amount of tax contributions for the year, showing all your calculations and final answer to currency with 2 decimal places.

Personal Allowance	£12,570
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Income Tax Rates & Taxable Bands:

Starter Rate of tax (19%)	£12,570 - £15,397
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Scottish Basic Rate (20%)	£15,397 - £27,491
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Intermediate Rate (21%)	£27,491 - £43,662
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Higher Rate (42%)	£43,662 - £75,000
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Advanced Rate (45%)	£75,000 - £125,140
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Top Rate (48%)	Over £125,140
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ANSWER:

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QUESTION 2:

You and your partner wish to purchase a house. You have savings held in Germany of Euro 23,000 and you receive a gift from a rich aunty in the USA for the amount of \$11,500 which is sent to you at current exchange rates.

You decide to apply for a bank loan / mortgage. The bank uses the following formula to calculate the maximum loan amount available.

$$\text{Maximum Loan} = 2\frac{3}{4}p + 1\frac{1}{2}s$$

Where $p = \text{principal salary}$

$s = \text{second salary}$

You have a salary of £42,349 and your partner earns £33,476

The legal fees amount to £5,920

Current exchange rates as per your bank is £1:Euro 1.14 and £1:\$1.42

How much money could you have available to buy a house to the nearest whole pound?

ANSWER:

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QUESTION 3:

You decide to take out a loan for £8,500 over a period of 60 months to buy a second-hand car.

The interest rate charged by the loan company is a constant 8.2% per annum for the term of the loan.

Calculate the total amount payable to three significant figures, noting the loan company uses the following formula to calculate the total amount payable.

$$A = B (1+i)^n$$

Where:

A = total amount payable

B = amount borrowed

i = annual interest rate as a decimal

n = term of the loan (in years)

ANSWER:

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QUESTION 4:

Mary-Jane works a standard 38 hour week earning a standard basic pay of £28.50 per hour, working 9 am to 5 pm Monday to Friday only.

Last week on Monday Mary-Jane worked 9 am to 8 pm, Tuesday was 8.40 am to 7.10 pm.

Wednesday, Thursday, Friday were all 9 am to 5 pm.

Saturday it was 8 pm to midnight. Sunday was 4.20 am to 8.50 am.

The employer pays overtime during the week at time and a quarter and for a Saturday at time and a half, Sunday overtime is 15% above the Saturday overtime rate. Overtime is paid for full hours worked only, not part thereof, based upon the total for each relevant day.

How much does Mary-Jane earn gross pay for the full week including overtime?

Show all your calculations and the answer to currency 2 decimal places.

ANSWER:

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QUESTION 5:

You work for a company selling a product related to your studies at college.

They normally sell 25 large boxes for every 3 small boxes sold.

After a successful advertising campaign, the total number of boxes sold in one month increases to 288 boxes in total with the same split as previous between large and small boxes.

How many large boxes are sold that month?

ANSWER:

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QUESTION 6:

Janine wants to upgrade her home office.

Janine has £1,200 in cash, an old camera lens from her friend in Ireland bought 4 years ago for Euro 2,000 that the bank will accept as part of the collateral, but the bank will calculate the depreciation on the camera lens at 95 pence for each of the 4 years.

The bank will use the following formula to calculate the maximum loan offer.

$$L = 2 \frac{3}{4} c - (3\% \text{ of } c) + (a \times d^4)$$

Where **L = Maximum Loan Amount**
 c = cash
 a = assets (in Pounds Sterling)
 d = depreciation at 95 pence in Pounds & Pence (£)

Current exchange rates as per your bank is 1 Euro = 86 pence

Using the formula, how much of a loan could Janine have available to upgrade her home office to the nearest whole pound?

ANSWER:

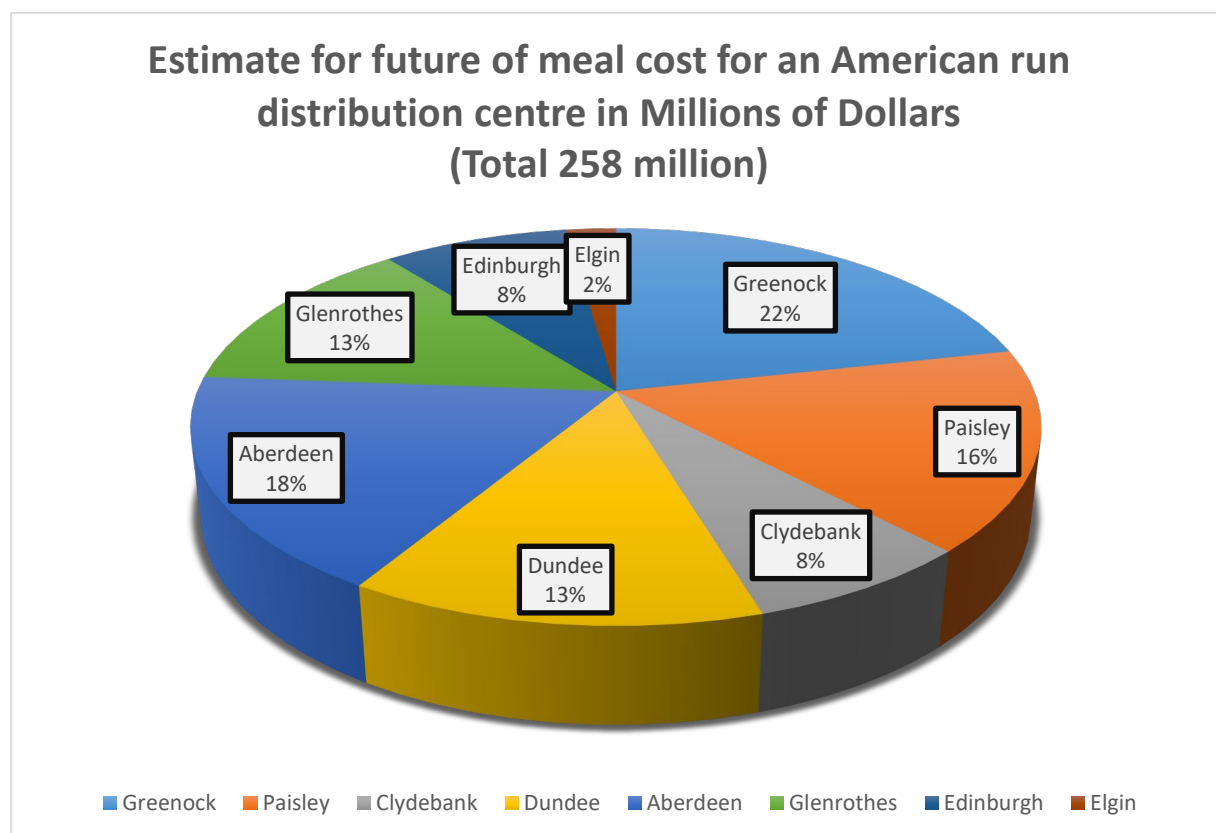
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QUESTION 7:

Interpret the pie chart below to create:

- (a) A table of results detailing the cost in Millions of US Dollars for each town to 2 decimal places (millions), for example, 2.54 million
- (b) A line graph showing the millions for each town in alphabetical order
- (c) A column chart showing the same data in same alphabetical order per town



**** fictional figures and not valid for any reason except this pre-assessment ****

ANSWER:

(use the following pages as displayed for answers)

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Table for 7(a)

7(b) Line Graph plotting millions per town in alphabetical order

7(c) Column Chart with same data illustrated

Continued on next page...

Lecturer: Mark Gillan

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QUESTION 8:

Place the following data into an appropriate chart / graph showing how each department contributes to the overall total productivity for each company. Illustrate the contribution upon productivity for each department towards the total for each company.

Company per department

	Shipping	Accounts	Marketing
GillanCo	50	80	20
MarCo	20	10	40
2M Industries	30	30	30
Faraway Inc.	40	50	20

ANSWER:

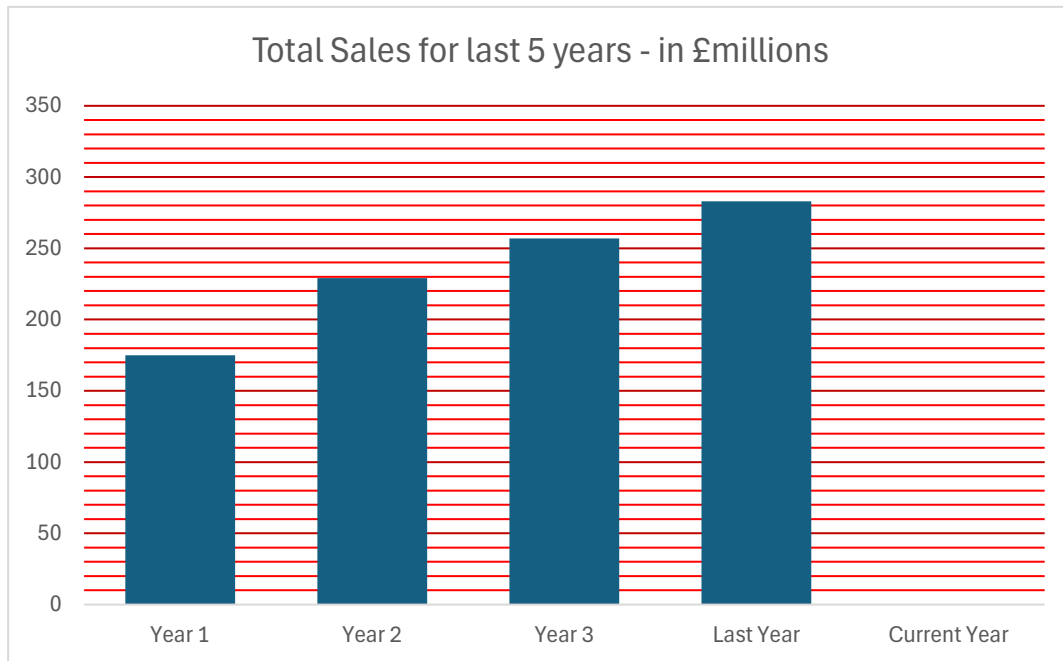
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QUESTION 9:

Gillan Supplies is a fast-growing company, operating internationally for the past five years (current year intentionally missing).

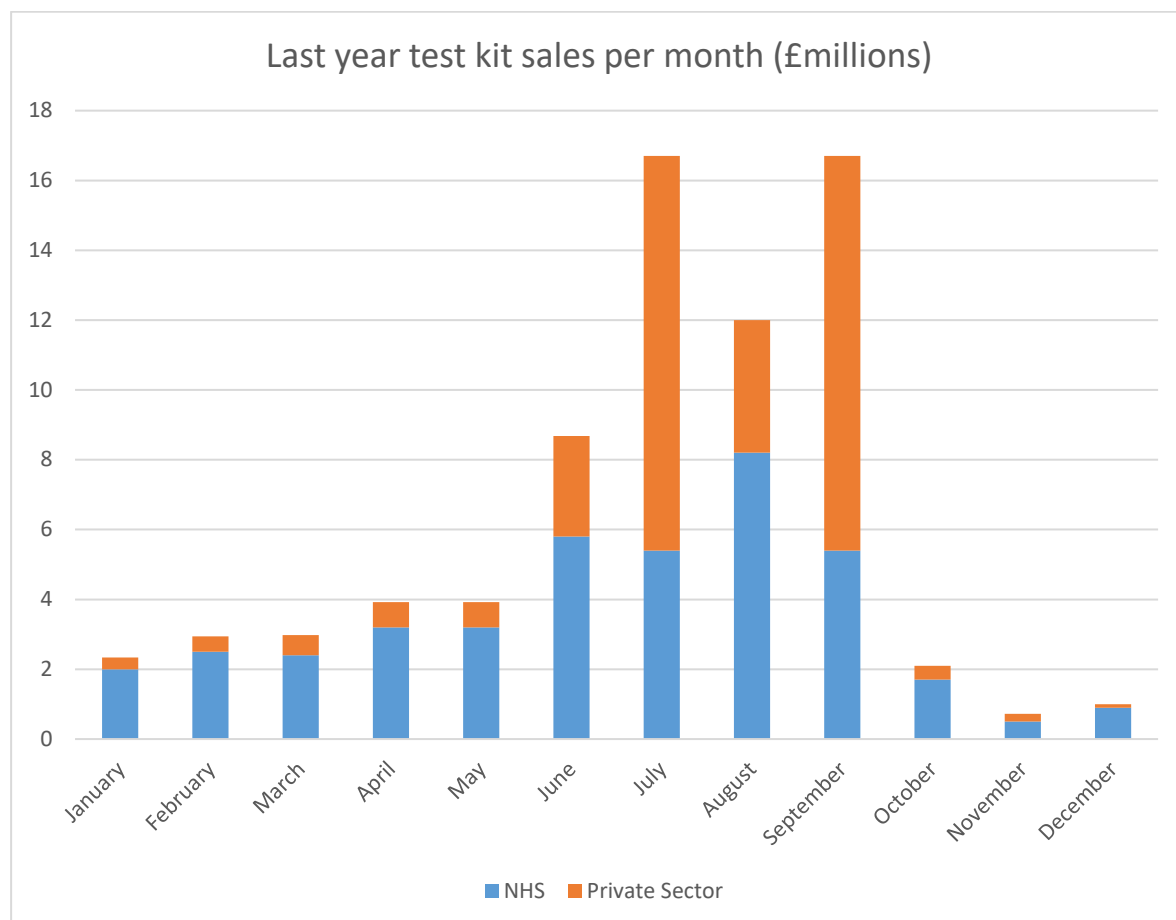
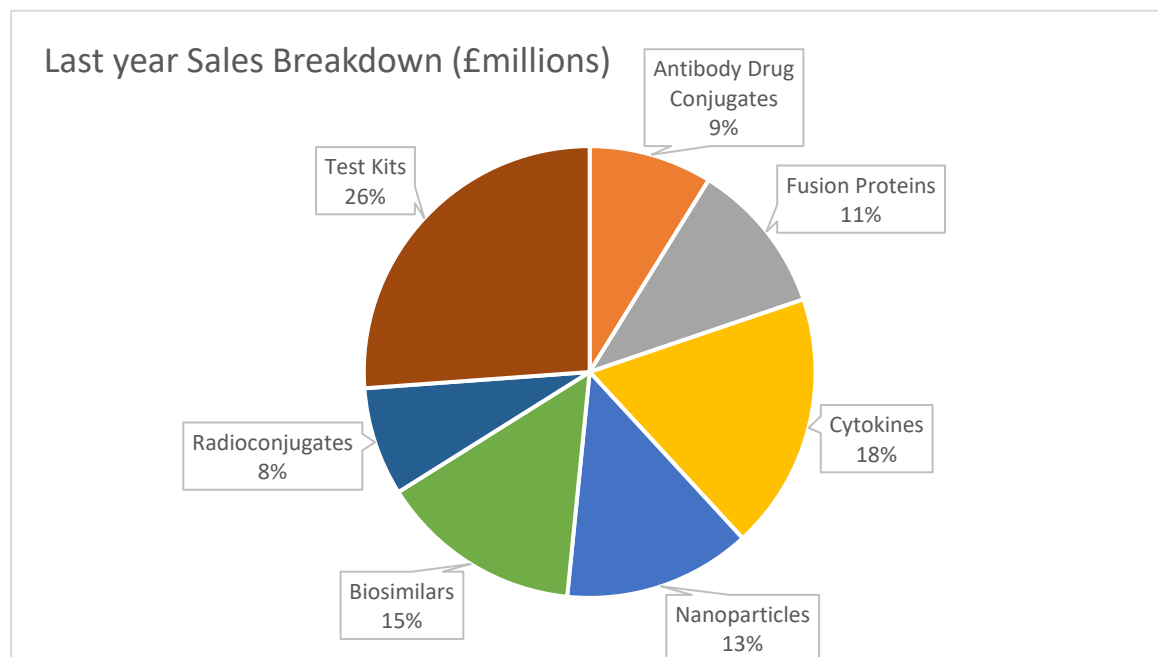
The charts below provide information on sales performance.



See next page for more charts and data...

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- a)** Estimate total sales in £millions for Last Year and justify your answer.
- b)** Calculate the test kit sales for last year to 2 significant figures.
- c)** Last year, which month had the largest drop in test kit sales?
- d)** In which month(s) did Private Sector sales exceed NHS sales for test kits?
- e)** Based upon the increase between Total Sales between previous years and to Last Year, what would you predict as being the total for Current Year?
- Justify your answer.

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QUESTON 10:

Alma had been earning £29,547 per annum last year.

Following a pay increase Alma is feeling happy to now be earning £33,102 per annum for this coming year.

What percentage increase did Alma receive to 2 decimal places?

ANSWER

End of Pre-Assessment