What is it with algorithms?

We'll do this as an examination question. And to make it as easy as possible it will be an open book exam. Oh – and it'll be multiple choice. To spice things up there's a prize of £7,800 if you get it right!

The question

What is the tax liability for your client, Ms Bita Lett, on the basis of the following information for 2019-20?

Net rental before finance costs	£75,000
Property business finance costs	£64,000
Gross interest income	£45,000
Dividend income	£100,000
Qualifying loan interest expense	£50,000

The possible answers

Take your pick from:

(a) Tax payable is £36,574
(b) Tax payable is £44,374.

The relevant legislation

There are three statutory provisions that will determine the right answer.

S23 ITA 2007

"The calculation of income tax liability

To find the liability of a person ("the taxpayer") to income tax for a tax year, take the following steps.

Step 1

Identify the amounts of income on which the taxpayer is charged to income tax for the tax year.

The sum of those amounts is "total income".

Each of those amounts is a "component" of total income.

Step 2

Deduct from the components the amount of any relief under a provision listed in relation to the taxpayer in section 24 to which the taxpayer is entitled for the tax year.

See [sections 24A and 25] for further provision about the deduction of those reliefs. The sum of the amounts of the components left after this step is "net income".

Step 3

Deduct from the amounts of the components left after Step 2 any allowances to which the taxpayer is entitled for the tax year under Chapter 2 of Part 3 of this Act . . . (individuals: personal allowance and blind person's allowance).

See section 25 for further provision about the deduction of those allowances.

Step 4

Calculate tax at each applicable rate on the amounts of the components left after Step 3.

See Chapter 2 of this Part for the rates at which income tax is charged and the income charged at particular rates.

If the taxpayer is a trustee, see also Chapters 3 to 6 and 10 of Part 9 (special rules about settlements and trustees) for further provision about the income charged at particular rates.

[See also section 863I of ITTOIA 2005 which provides for certain partnership profits to be charged at the additional rate.]

Step 5

Add together the amounts of tax calculated at Step 4.

Step 6

Deduct from the amount of tax calculated at Step 5 any tax reductions to which the taxpayer is entitled for the tax year under a provision listed in relation to the taxpayer in section 26.

See sections 27 to 29 for further provision about the deduction of those tax reductions.

Step 7

Add to the amount of tax left after Step 6 any amounts of tax for which the taxpayer is liable for the tax year under any provision listed in relation to the taxpayer in section 30.

The result is the taxpayer's liability to income tax for the tax year."

S25(2) ITA 2007

"Reliefs and allowances deductible at Steps 2 and 3: supplementary

(1) This section supplements the provisions about reliefs and allowances in Steps 2 and 3 of the calculation in section 23.

(2) At Steps 2 and 3, deduct the reliefs and allowances in the way which will result in the greatest reduction in the taxpayer's liability to income tax."

S26(1)(a) ITA 2007

Tax reductions

(1) If the taxpayer is an individual, the provisions referred to at Step 6 of the calculation in section 23 are—

(a) the following—

…

[section 274A of ITTOIA 2005 (property business: relief for non-deductible costs of a dwelling-related loan),]

S274A ITTOIA 2005

"Reduction for individuals: entitlement]

(1) If for a tax year an individual has—

(a)   a relievable amount in respect of a property business, or

(b)   two or more relievable amounts each in respect of a different property business,

the individual is entitled to relief under this section for that year in respect of that relievable amount or (as the case may be) each of those relievable amounts.

S274AA(1) to (3) ITTOIA 2005

"(1)   This section applies if for a tax year an individual is entitled to relief under section 274A in respect of a relievable amount or in respect of each of two or more relievable amounts, and in the following subsections of this section "relievable amount" means that relievable amount or (as the case may be) any of those relievable amounts.

(2)   In respect of a relievable amount, the actual amount on which relief for the year is to be given is (subject to subsection (3)) the amount ("L") that is the lower of—

(a)   the relievable amount, and

(b)   the total of—

(i)   the profits for income tax purposes of the property business concerned for the year after any deduction under section 118 of ITA 2007 ("the adjusted profits") or, if less, the share (if any) of the adjusted profits on which the individual is liable to income tax otherwise than under Chapter 6 of Part 5, and

(ii)   so much (if any) of the relievable amount as consists of current-year estate amounts.

(3)   If S is greater than the individual's adjusted total income for the year ("ATI"), the actual amount on which relief for the year is to be given in respect of a relievable amount is given by—

(ATI / S) x L

where—

S is the total obtained by identifying the amount that is L for each relievable amount and then finding the total of the amounts identified, and

L has the same meaning as in subsection (2)."

S274AA(6) ITTOIA 2005

"For the purposes of this section, an individual's adjusted total income for a tax year is identified as follows—

Step 1

Identify the individual's net income for the year (see Step 2 of the calculation in section 23 of ITA 2007).

Step 2

Exclude from that net income—

(a)   so much of it as is within section 18(3) or (4) of ITA 2007 (income from savings), and

(b)   so much of it as is dividend income.

Step 3

Reduce what is left after Step 2 of this calculation by the amount of any allowances deducted for the year in the individual's case at Step 3 of the calculation in section 23 of ITA 2007. The result is the individual's adjusted total income for the year."

The analysis

This question is all about how to allocate the qualifying loan interest of £50,000 (to comply with s25(2) ITA 2007) and how to calculate the "adjusted total income" (ATI) under s247AA ITTOIA 2005.

The legislation cited makes it clear that tax reducer for disallowable property finance costs provided for by s274A ITTOIA 2005 is by virtue of s26 ITA 2007 deducted as part of Step 6 in arriving at the tax liability in Step 7 of s23 ITA 2007.

Here's how I would do it

Work out the taxable property business profits by deducting 25% of the £64,000 property business finance costs (ie £16,000) against the net rentals of £75,000 to give taxable property business profits of £59,000.

The other £48,000 of the finance costs is what s274A describes as the "relievable amount".

Now allocate the £50,000 loan interest (note there will be no personal allowance available) £5,000 to the £59,000 taxable property business profits and the other £45,000 to the interest income of £45,000.

This allocation results in a tax figure (Step 5 of s23 ITA 2007) of £46,174.

Next I need to work out the tax reducer amount under s274A ITTOIA 2005.

The tax reducer (see s274AA(2) to (3) ITTOIA 2005) has to be calculated by taking 20% of the lowest of:

1 the property finance costs no longer allowed as an expense;
2 the taxable property profits; and
3 the "adjusted total income" (ATI).

We already know that 1 is £48,000 and 2 is £59,000 so that just leaves the ATI.

Working out the ATI

Let's follow the step by step instructions in s274AA(6) ITTOIA 2005.

Step 1

Identify the individual's net income for the year (see Step 2 of the calculation in section 23 of ITA 2007).

Ok – let's go back to s23. The s23 Step 1 "components" are:

Property business profits	£59,000
Gross interest income	£45,000
Dividend income	£100,000

The relief allocation (£5,000 to the £59,000 taxable property business profits and the other £45,000 to the interest income of £45,000) then gives us the s23 Step 2 components as:

Property business profits	£54,000

Gross interest income £nil

Dividend income <u>£100,000</u>

S23 Step 2 net income <u>£154,000</u>

We now move to s274AA(6) Step 2:

Exclude from that net income—

(a) so much of it as is within section 18(3) or (4) of ITA 2007 (income from savings), and

(b) so much of it as is dividend income.

Well the net income includes £nil interest income and £100,000 dividend income. Excluding those will leave ATI of £54,000.

The tax reducer (see s274AA(2) to (3) ITTOIA 2005) has to be calculated by taking 20% of the lowest of:

1 £48,000 - the property finance costs no longer allowed as an expense;
2 £59,000 - the taxable property profits; and
3 £54,000 - the "adjusted total income" (ATI).

The conclusion is that the tax reducer under s274AA ITTOIA 2005 will be 20% of £48,000 (is £9,600) and the final tax liability under s23 ITA 2007 will be:

£46,174 - £9,600 = £36,574.

It looks like answer (a) is the correct multiple choice selection.

Here's what HMRC do

Very simply, HMRC have programmed their calculator to work out the ATI as the excess of non-savings income over allowances and reliefs.

This is how the HMRC calculator looks:

Net income		£154,000	
Savings income		£45,000	
Dividend income		£100,000	
Allowances		£0	
Adjusted total income		£9,000	
Total finance costs	£48,000		
Allowable amount			£48,000
Relievable amount			£9,000

HMRC maintain that the way in which allowances and reliefs are allocated in s23 ITA 2007 has no relevance to the calculation of ATI. Their analysis becomes:

The tax reducer is calculated by taking 20% of the lowest of:

4 £48,000 - the property finance costs no longer allowed as an expense;
5 £59,000 - the taxable property profits; and
6 £9,000 - the "adjusted total income" (ATI).

The conclusion is that the tax reducer under s274AA ITTOIA 2005 will be 20% of £9,000 (is £1,800) and the final tax liability under s23 ITA 2007 will be:

£46,174 - £1,800 = £44,374.

HMRC think that answer (b) is the correct multiple choice selection.

So who is right?

Ultimately this will have to be decided by the Tribunal.

Here are the key arguments against the HMRC approach.

1 HMRC do not follow the step by step approach set out in s274AA(6) ITTOIA 2005.

2 If the drafter had intended the HMRC methodology they could more easily have defined the ATI as:
"the excess of the taxpayer's non-savings income over the reliefs and allowances available under ss24 and 25 ITA 2007".

3 The s274AA relief is given as a deduction in Step 6 of s23 ITA 2007 and can therefore influence the allocation of reliefs and allowances as directed under s25 ITA 2007.

Of course the application of s25 ITA 2007 has long been a problem for the programmers who code the HMRC tax calculator and even now the HMRC calculations of tax for 2019-20 are wrong for a number of taxpayers with various combinations of different types of income.

But the error that HMRC make for landlords is really quite simple. The HMRC calculator allocates allowances and reliefs in a way that minimises the tax *before* the finance cost tax reducer whereas s25 directs us to minimise the tax *after* the tax reducer. It then works out the ATI using their simplified method. Actually, that makes two simple errors.

What have HMRC got to say about this?

I first emailed HMRC about this issue on 4 June 2018 (yes – over two years ago). The most recent response from HMRC was on 27 May 2020 and is (largely) reproduced below:

"The second issue surrounded the interpretation and interaction of s274AA(6) ITTOIA 2005 and s23 ITA 2007. As part of the calculation for finance costs relief, the customer's Adjusted Net Income is calculated. Specifically s274AA(6) provides that at Step 1 'Identify the individual's net income for the year (see Step 2 of the calculation in section 23 of ITA 2007).' Step 2 of s23 ITA 2007 provides 'Deduct from the components the amount of any relief under a provision listed in relation to the taxpayer in section 24 to which the taxpayer is entitled for the tax year. See sections 24A and 25 for further provision about the deduction of those reliefs. The sum of the amounts of the components left after this step is "net income". Specifically s25(2) then provides that 'At Steps 2 and 3 [of s23], deduct the reliefs and allowances in the way which will result in the greatest reduction in the taxpayer's liability to income tax.' As s274AA directs to step 2 of s23, it could be argued that step 2 must be undertaken in full, including any further sections or subsections that step 2 refers to, in this case ss24A and s25 that allow the allocation of reliefs in the most advantageous way for the taxpayer.

"It was this issue in particular that has taken so much time to work through, in conjunction with our colleagues in our Solicitors' Office, but we can now clarify HMRC's position. We believe that it is crucial to acknowledge that S274AA(6) is there to identify an individual's 'adjusted total income', not their liability to tax, and step 1 of s274AA(6) is concerned with identifying their 'Net Income' and references step 2 of the calculation in s23 ITA 2007, (which instructs us to deduct reliefs at s24 ITA 2007, referencing sections 24A and 25 ITA 2007), only as a point of reference as to where to find that 'Net Income'. This 'Net Income' figure will be identical, irrespective of how reliefs are allocated, and on

that point we all agree. Where a divergence has occurred is whether or not we should read in to step 1 of s274AA(6) that the 'Net Income' figure is broken down into its components with reliefs allocated in a way that would later result in the increase of relief due, reducing the individuals' overall liability to income tax. HMRC believe we should not read that into step 1 of s274AA(6).

"Step 2 of s2744AA(6) then instructs us to deduct from 'Net Income' savings and dividends. HMRC believe the purposive interpretation of this step is to remove savings and dividends from 'Net Income'. This figure of 'Net Income' is taken from step 1 of s274AA(6), and not the components of 'Net Income' with reliefs allocated in a particular order. Whilst step 1 of s274AA(6) does refer to step 2 of the calculation in s23 ITA 2007, step 2 of s2744AA(6) ITTOIA 2005 does not, and so it should follow that neither does it invoke s25(2) ITA 2007.

"The s274AA ITTOIA 2005 calculation should be undertaken outside of s23 ITA 2007 and then feed the result in to s23 at step 6 as a tax reducer listed at s26 ITA 2007. It is a side calculation for the purposes of calculating the tax reducer only and so it should not be included within s23 with the resultant circular calculation this would invoke.

"HMRC believe that the expectation was that any reliefs and allowances would be deducted from non-savings income first. It was expected the s23 step 2 income would have the reliefs deducted from other types of income before they are deducted from savings and dividend income. Indeed it can actually be seen to be more beneficial in the long term for a customer, as doing so can in some circumstances allow more unused relief to be carried forward. It was also expected the s23 step 3 allowances would not be deducted from savings and dividend income and this is defined in s274AA (6) step 3 as being set against net income after excluding savings and dividends. The Personal Allowance and Blind Persons Allowance cannot therefore be set against the savings and dividend income and can only reduce the amount of other income.

"Finally for finance relief under s274AA the SA tax calculator allows equal treatment of the reliefs and allowances at s23 step 2 and step 3 respectively. If the intention of s274AA had been to identify the components after relief then s274AA would have made that clear in step 1 and step 2."

I must leave to the reader to make of this what they will but I would point out that:

1 Step 2 of s2744AA(6) does not "instruct us to deduct from 'Net Income' savings and dividends" – it instructs us to "exclude from that net income so much of it as is … savings income and … dividend income".

2 The assertion that the s274AA(6) calculation should be done outside the s23 calculation cannot be right when the s23 calculation depends on the deduction of the s274A tax reducer at Step 6.

3 The statement by HMRC that "*It is a side calculation for the purposes of calculating the tax reducer only and so it should not be included within s23 with the resultant circular calculation this would invoke"* perhaps gives the game away. The HMRC calculator is essentially a massive Excel spreadsheet and it is (I think) impossible to write a single algorithm that complies with the legislation without introducing a fatal circularity into the spreadsheet. My own Excel calculator gets round this circularity problem by using no fewer than 12 different algorithms to allocate allowances and reliefs and then selecting the version that gives the lowest s23 tax liability.

4 The policy objective? In earlier correspondence on this issue HMRC stated *"The intention of the comparison with ATI is so that finance costs cannot create a repayment of tax. It can only reduce what is already owed".* While the policy objective is irrelevant to the application of clear, unambiguous legislation that is not absurd I would point out that in neither my nor HMRC's application does the finance cost tax reduction generate a repayment of tax. Nor do my calculations ever result in a finance cost tax reduction that exceeds the tax attributable to the taxable property profit.

Other examples

For those who might think that my example is contrived I must tell you that there are many different combinations of income and reliefs that can give rise to a material difference between the tax that HMRC and (probably) your software will calculate and what I maintain is the correct tax. Here is just one other example (perhaps a director/shareholder with a rental property):

Net rental before finance costs	£34,000
Property business finance costs	£30,000
Dividend income	£14,000
Qualifying loan interest expense	£24,000

I calculate the 2019-20 liability as £150 whereas HMRC calculate it as £900. A difference of £750.

How to spot possible affected clients?

If your landlord client has some sort of relief (qualifying loan interest, loss relief etc) AND the tax reducer calculated by your software is less than 20% of the disallowed property finance costs then this might be a case worth pursuing (although not every such case will be).

What to do about it?

My advice to Ms Bita Lett is to appeal to the First-tier Tribunal. HMRC are not going to give way on this without a hearing. Interestingly the circumstances that have brought us to this are much the same as those leading up to the successful outcome for the taxpayer (and many others) in *Marina Silver* (TC7103): the drafter drafts statutory provisions which although clear and unambiguous engage the limitations of Excel and force the programmers at HMRC to take short cuts that then act to the detriment of the taxpayer.