

Mortgage repayment methods

LEARNING OBJECTIVES

In this topic we are going to look at the two basic ways to arrange a mortgage – repayment and interest-only – and the different ways a lender can calculate interest.

By the end of this topic, you should have an understanding of:

- capital repayment mortgages;
- interest-only mortgages;
- methods of calculating mortgage interest, including the APRC.



THINK ...

Before you start work on this topic, take a moment to think about what you already know about the two mortgage repayment methods. We introduced these in UK Financial Regulation and if you have been involved in buying a property you will be familiar with them. What are the key differences between the two repayment methods?

We also looked at interest-only mortgages when we covered suitability in Topic 12. Can you recall:

- why this type of mortgage can appear attractive to people on tight budgets?
- the concerns about the risks posed by this type of mortgage?
- the rules set out in MCOB designed to address those risks?



REPAYMENT METHODS V MORTGAGE PRODUCTS

Although there are many mortgage products available, there are only two mortgage repayment methods: capital repayment (or capital and interest) and interest-only. It is important not to confuse mortgage products, such as fixed-rate and discounted, with repayment methods.

20.1 How does a capital repayment mortgage work?

Until the mid-1970s, the capital repayment mortgage (usually shortened to 'repayment mortgage') was the conventional method of arranging a mortgage. Interest-only loans then became prevalent, but, following well-publicised problems that emerged with interest-only mortgages in the 1990s and early 2000s, the capital repayment method became popular again.

With a repayment mortgage, each monthly payment consists of two parts:

- a capital element, which repays the outstanding capital over the term of the mortgage; and
- an interest element, which represents the interest charged on the outstanding capital.

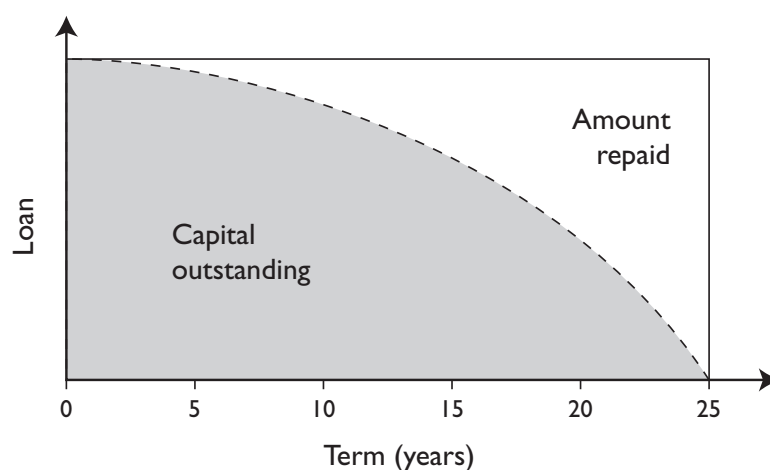
If the borrower makes all monthly payments when they fall due, the loan is guaranteed to be fully repaid at the end of the mortgage term. It does take several years before there is any noticeable reduction in the amount of capital owed because initially much of the borrower's monthly payment is allocated to repaying the interest due (as explained in the In Brief panel); this can cause concern to some borrowers, who may feel that their loan will never be repaid.

IN BRIEF

HOW A CAPITAL REPAYMENT MORTGAGE WORKS

- At the start of the mortgage, the lender calculates how much will need to be paid each month to repay the capital by the end of the term and pay the monthly interest due. The lender then assumes that the payment will remain the same throughout the term.
- Part of each monthly payment reduces the capital outstanding and, as the capital reduces, less interest is charged on the reducing balance.

- At the beginning of the mortgage term, the monthly payment consists largely of interest. This means that the repayment of capital is slow in the early years.
- As the term progresses, the balance begins to change, and more of each monthly payment is used to repay the capital, because a lower capital balance means less interest is charged each month.
- If the lender's interest rate changes, the lender recalculates the monthly payment needed to ensure the mortgage is repaid by the end of the term. This could mean the monthly payment increases if rates increase, or decrease if rates decrease.

FIGURE 20.1 CAPITAL REPAYMENT MORTGAGE

CAPITAL AND INTEREST PAYMENTS ON A CAPITAL REPAYMENT MORTGAGE

%

The monthly payment on a new capital repayment loan of £60,000, spread over 25 years, at an interest rate of 5 per cent is £354.78. This is taken from standard repayment tables available online.

Assuming that the interest rate remains unchanged for the whole of the first year, the amount of interest payable in that year is:

$$60,000 \div 100 \times 5 = £3,000$$

The interest element of each monthly payment in the first year is:

$$3,000 \div 12 = £250$$

The amount of capital repaid in the first year is therefore:

$$(\pounds 354.78 - \pounds 250.00) \times 12 = \pounds 1,257.36$$

If the interest rate were 10 per cent, the monthly payment on $\pounds 60,000$ over 25 years would be $\pounds 550.86$.

The amount of interest payable in the first year is:

$$60,000 \div 100 \times 10 = \pounds 6,000$$

The interest element of each monthly payment in the first year is:

$$6,000 \div 12 = \pounds 500$$

The amount of capital repaid in the first year is therefore:

$$(\pounds 550.86 - \pounds 500) \times 12 = \pounds 610.32$$

The examples illustrate that the higher the interest rate charged, the smaller the amount of capital that is repaid during the early part of the mortgage term.

The capital repayment method has inbuilt flexibility:

- If interest rates decrease, lenders generally allow borrowers the option of maintaining their payments at the level required prior to the decrease. This will shorten the mortgage term because each overpayment will reduce the capital outstanding, assuming it is applied to the account immediately.
- The change to the term is likely to be quite short-lived, because the next rate change may alter the required payment again.
- Many lenders allow borrowers to increase their monthly payment, irrespective of any change in interest rates. This is known as 'overpayment', and can help to reduce the mortgage term as described above. This is a popular option for those who receive a pay rise or otherwise find they have more disposable income and wish to pay off the mortgage earlier than scheduled. Should their situation change, they can always revert to the original payment.
- Many lenders also allow one-off partial capital repayments, which again would reduce the term of the mortgage.
- If a borrower is struggling to meet the monthly payments on a short-term basis, the lender might agree to reduce the monthly payments for an agreed period. As less capital is repaid each month than scheduled, the mortgage term would be extended.

CASE STUDY

John has a repayment mortgage with a term of 19 years remaining. His lender's rate decreases by 0.5 per cent, reducing John's required payment by £42 a month. John decides to maintain his existing payments, which means he will overpay by £42 each month, reducing the capital more quickly and reducing the interest charged. The lender calculates that if this overpayment continues for the rest of the mortgage term, the mortgage will be repaid two years early.

Six months later, the lender's rate increases to the original level and John decides to maintain his existing payment. He will have paid off a very small amount of additional capital by overpaying for a short period, but not enough to make a significant difference. As a result, the lender's recalculation will show that, if this payment continues for the rest of the mortgage term, the mortgage is now likely to be repaid only a month or so before the original end date, now 18 years and six months away.

Table 20.1 shows the capital outstanding at points in the term of a 25-year £100,000 repayment mortgage. The figures assume interest rates will not change over the term.

TABLE 20.1 DEBT REDUCTION TABLE

Capital outstanding (£) at years into the term						
Interest %	£ monthly	5	10	15	20	22
3	479	85,400	68,600	49,000	26,300	16,200
5	591	88,400	73,600	54,800	30,700	19,300
7	715	90,900	78,200	60,300	35,200	22,500
9	848	92,900	82,100	65,300	39,600	25,800
11	990	94,600	85,400	69,900	43,900	29,000

20.1.1 Repayment mortgage advantages and disadvantages

The main advantages are as follows.

- **Debt reduction** – many borrowers find comfort in the knowledge that they are reducing their mortgage debt over time.
- **Guaranteed repayment** – the repayment method guarantees that the loan will be repaid by the end of the term, as long as the required payments are made on time.
- **No investment link** – the mortgage repayment is not dependent on the performance of an investment vehicle.

The main disadvantage of capital repayment is that there is no built-in life cover. This must be arranged separately, although decreasing term assurance cover is generally inexpensive and will pay off the mortgage if a borrower dies before the end of the term.

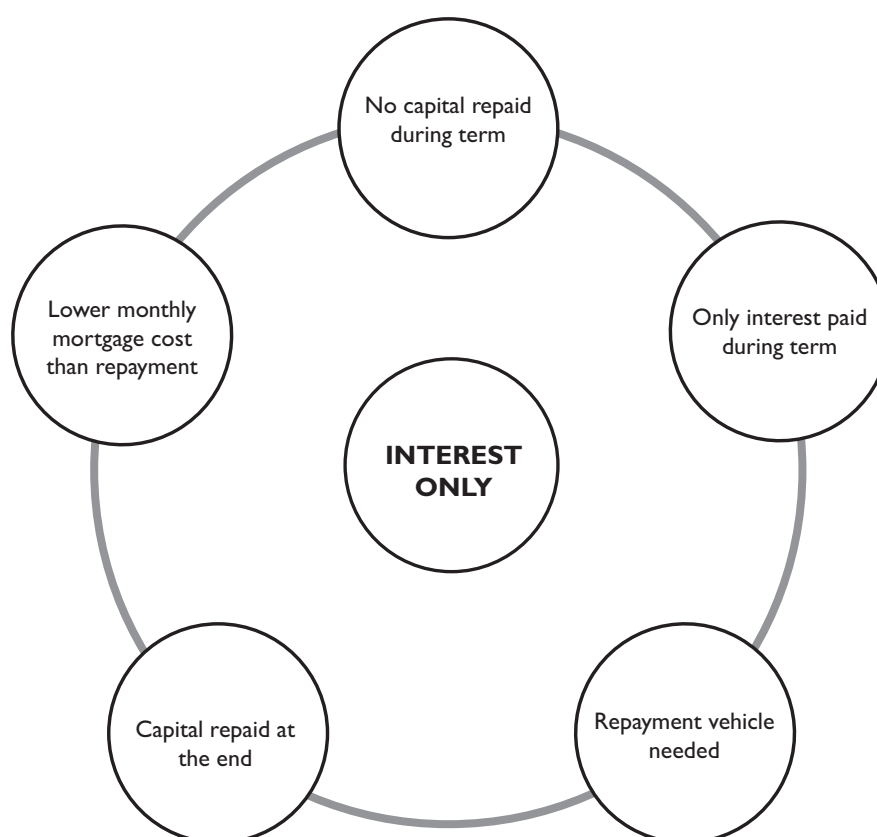


CHECK YOUR UNDERSTANDING I

You learned about decreasing term assurance in Topic 17 and in UK Financial Regulation. Can you remember how it works?

20.2 How does an interest-only mortgage work?

With an interest-only mortgage, the borrower makes monthly mortgage payments consisting of interest only. The full capital amount remains outstanding during the mortgage term and is repaid in one lump sum at the end of the term. This means that the mortgage payments each month are lower than those for a repayment mortgage for a similar amount. Figure 20.2 summarises the key features of this type of mortgage repayment method.

FIGURE 20.2 INTEREST-ONLY MORTGAGE: KEY FEATURES

Monthly interest payments are easily calculated. The capital is multiplied by the interest rate and then divided by 12. For example, a £150,000 interest-only mortgage with an interest rate of 5 per cent would be: $£150,000 \times 5\% = £7,500 \div 12 = £625$ per month.

The borrower usually arranges a repayment vehicle (usually an investment) to build up the capital needed to repay the mortgage at the end of the term. The repayment vehicle runs alongside the mortgage but is separate from it, although the cost should be taken into account when calculating the overall costs of the mortgage arrangement. In many cases, once the cost of the repayment vehicle has been added to the mortgage payment, the overall cost of an interest-only mortgage may be little different from a repayment mortgage.

The repayment vehicle is totally separate from the mortgage, and the borrower can only be advised on it by a suitably qualified financial adviser. The repayment vehicle does not have to be arranged by the lender, and in some cases the lender will not offer advice on it.

As we will see in Topic 21, the vast majority of investments that can be used to support an interest-only mortgage do not offer any guarantee that the investment performance will be sufficient to repay the debt in full. Until

relatively recently, the most common repayment vehicles were low-cost with-profit and unit-linked endowment policies, but most new interest-only mortgages are supported by stocks and shares ISAs.



CHECK YOUR UNDERSTANDING 2

You learned about low-cost with-profit and unit-linked endowment policies in UK Financial Regulation. Can you recall:

- how a low-cost with-profit endowment is structured?
- how a unit-linked endowment works?

Many endowment policies taken out in the past appear increasingly unlikely to produce enough to repay the associated mortgage in full. For this reason, interest-only loans have become unpopular with borrowers, although some lenders allow interest-only loans to be taken out without any supporting repayment vehicle in place, subject to the MCOB rules on responsible lending outlined in section 10.7. This effectively puts the responsibility on the borrower to ensure that they have the means to repay the loan in full at the end of the mortgage term.

20.2.1 MCOB rules on interest-only mortgages

Interest-only mortgages were scrutinised as part of the Mortgage Market Review (MMR) that was carried out by the Financial Services Authority, and implemented by its successor, the FCA, in April 2014. There was concern that too many borrowers took out interest-only mortgages as a way of cutting monthly expenditure, without arranging adequate repayment vehicles. This led, or could lead, to problems repaying the capital at the end of the mortgage term. Strengthening of the rules relating to interest-only mortgages was an important element of the changes brought in following the MMR.

- **MCOB 4.7A.9 and 11.6.41** require a firm to make sure that the customer demonstrates that they have arranged a clearly understood and ‘credible’ repayment strategy that the lender has assessed at the time to have the potential to repay the capital at the end of the term. The lender is not required to provide advice on that strategy and the regulator is not prescriptive about what is meant by a ‘credible’ strategy.

Acceptable repayment methods could include regular payments into a savings or investment product, the allocation of regular bonus payments to pay down the capital or the sale of another property. Speculative strategies such as relying on house price inflation, potential inheritance, windfalls or ad-hoc investments are not considered to be acceptable approaches.

- **MCOB 11.6.49** requires lenders to carry out at least one review during the term of the mortgage, where the borrower is contacted to check that

the repayment strategy is still in place, and that it still has the potential to repay the capital borrowed. The review must be carried out at a point where there would still be sufficient time for the customer to remedy any problems before the end of the mortgage term.

WHAT IS A 'PURE' INTEREST-ONLY MORTGAGE?

In a very limited number of situations it may be appropriate for the lender to arrange an interest-only mortgage with no repayment vehicle. Known as 'pure' interest-only, this applies where there is a degree of certainty that the mortgage can be paid off without relying on speculative sources. An example is the eventual sale of the mortgaged property as the repayment method, but only where the value of the property should be sufficient to repay the mortgage. The lender cannot allow for house price inflation as part of the calculation, so the LTV of such a loan would be relatively low.

Pure interest-only is an accepted method of arranging a business buy-to-let mortgage. Consumer buy-to-let mortgages are subject to the same rules on affordability and suitability as standard residential mortgages, although nothing in the rules prevents such a mortgage being arranged on a pure interest-only basis.

As we saw in Topic 13, the FCA introduced a new category of interest-only mortgage into retirement, whereby borrowers over a certain age can take out a pure interest-only mortgage repayable on their death or move into residential care. This is separate from lifetime mortgages, so the lender needs to do affordability checks, including income in retirement, but is not required to carry out a review of the borrower's repayment during the term.

Changing contracts

MCOB rules recognise that some customers with an existing interest-only mortgage may not be able to vary their existing mortgage terms if the rules are applied strictly. In order to make sure these customers are not disadvantaged, lenders can allow them to vary the terms of an interest-only mortgage, as long as the borrowing is not increased by more than the costs of changing the mortgage.

High-net-worth customers

MCOB rules also allow more flexible treatment for interest-only applications from high-net-worth customers, as outlined in Topic 8.

20.2.2 Advantages and disadvantages of interest-only mortgages

Table 20.2 summarises the advantages and disadvantages of interest-only mortgages.

TABLE 20.2 ADVANTAGES AND DISADVANTAGES OF INTEREST-ONLY MORTGAGES

Advantages	Disadvantages
A wide variety of investment products can be used as repayment vehicles to build up the capital	No capital is paid off during the term, which means the debt does not reduce
If the repayment vehicle performs better than expected, it may be possible to repay the mortgage early	There is a significant risk that the chosen repayment vehicle will not produce sufficient capital to repay the whole mortgage at the end of the term, so interest-only mortgages are not suitable for the risk averse
	The total interest payable over the term is much higher than a repayment mortgage

20.3 How is mortgage interest calculated and charged?

The way in which mortgage interest is charged can be calculated on an annual basis, or on a monthly or daily basis. The technical term used for the frequency of calculation is ‘rest’, so we have daily rest, monthly rest and annual rest calculations.

Note that the method of calculating interest makes no difference to the interest-only borrower unless additional payments are made to reduce the outstanding debt.

FIGURE 20.3 HOW IS MORTGAGE INTEREST CALCULATED?

Annual rest	<ul style="list-style-type: none">• Interest calculated annually at year start• Payments credited as paid but deducted from the balance at the year's end• Most interest paid over the term: slowest debt reduction
Monthly rest	<ul style="list-style-type: none">• Interest calculated monthly at month start• Payments credited and deducted from the balance monthly• Less interest over the term
Daily rest	<ul style="list-style-type: none">• Interest calculated daily• Payments credited and deducted from the balance immediately• Potentially least interest over the term and quickest debt reduction

20.3.1 Annual rest basis

Until relatively recently, lenders calculated mortgage interest on an annual basis, the actual calculation date normally being 1 January, which is the date we'll assume for the rest of this explanation. This means that interest for a particular year is calculated using the balance outstanding on 1 January of that year, and assumes the balance will remain the same throughout the year, ignoring any repayments made during it. The calculation for the following year is then based on the revised balance outstanding on 1 January of that year.

The annual rest method is easy to operate and benefits the lender because, on a capital repayment mortgage, interest is charged on the balance outstanding at the beginning of the year and no adjustments are made for the capital that is paid off in the next 12 months. The borrower is disadvantaged because they are paying interest on money they no longer owe. It also means the debt is repaid more slowly than with monthly and daily calculations.

Annual rest is also of no benefit to a borrower who wants to pay off part of the mortgage with a single lump sum, because the repayment will not have any effect until 1 January of the following year. In this case the borrower would be better off putting the lump sum into a deposit account to earn interest and then use it to pay off some of the mortgage in late December, just in time to affect the next calculation.

While few, if any, lenders use the annual rest basis for new mortgages, older mortgages may still be calculated on that basis. Many lenders will allow an existing mortgage to be switched to a daily rest basis on request.

20.3.2 Monthly rest basis

With the monthly rest basis, interest is calculated on the outstanding balance on a specified day each month. It benefits the borrower because the interest charged more accurately reflects the actual amount owed.

For example, the monthly payment made in March partly comprises capital that reduces the outstanding debt. This reduced figure is used to calculate the interest to be charged for April. Over the whole mortgage term the borrower pays considerably less interest than would be the case on the annual calculation basis. Any overpayments that are not subject to an interest penalty will reduce the amount of interest charged to the account from the start of the following month.

20.3.3 Daily rest basis

The calculation of interest on a daily basis became quite common with the introduction of flexible mortgages in the UK. The interest charged is based on the outstanding balance at the start of each day.

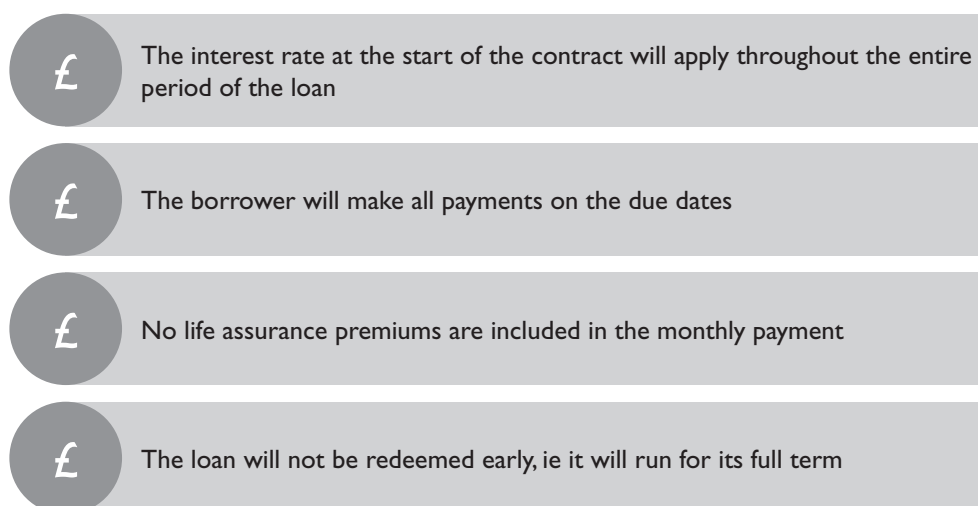
The daily rest basis benefits borrowers who want to make ad hoc single payments or overpayments to reduce their mortgage because the additional payment will reduce the balance immediately, whereas those on a monthly basis will have to wait until the monthly calculation date to see a reduction. This encourages borrowers to make additional payments whenever possible to reduce the term of their mortgage considerably.

There is no benefit for borrowers who make regular monthly payments, because the outstanding balance on each day will be the same as the balance at the end of the month. Those who pay their mortgage late will not benefit either.

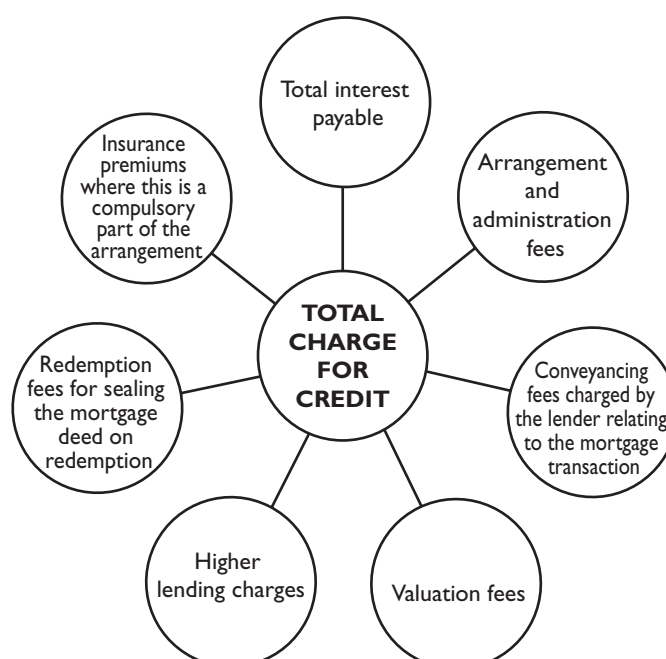
20.4 The annual percentage rate of charge

The implementation of the Mortgage Credit Directive in 2016 resulted in mortgages being calculated in a slightly different way from the annual percentage rate (APR). This calculation is referred to as the annual percentage rate of charge (APRC). It enables a prospective borrower to compare the true cost of borrowing from different lenders. The APRC is regarded as a rate of charge because it takes into account some, but not all, of the costs involved in setting up and administering a loan. In simple terms, the interest payable over the term, and the additional costs, are totalled and calculated as an annual percentage rate on the mortgage amount. As a result, the APRC is usually higher than the advertised (ie 'flat') rate, which represents the nominal interest rate charged on the mortgage amount alone.

The calculation of the APRC requires the application of a complex mathematical formula, which is beyond the scope of CeMAP®. Regulated mortgages and MCD regulated mortgages use slightly different assumptions but the result is very similar. Figure 20.4 sets out the broad principles that apply to all contracts.

FIGURE 20.4 WHAT ASSUMPTIONS MUST THE LENDER MAKE IN CALCULATING THE APRC?

The true cost of borrowing is arrived at by calculating a total charge for credit (TCC), which is then converted into the APRC.

FIGURE 20.5 COSTS AND CHARGES INCLUDED IN THE TCC CALCULATION

The following costs and charges are excluded from the TCC calculation:

- early repayment charges;
- endowment and other life assurance premiums;

- charges levied in respect of any default by the borrower.

WHAT IS THE SECOND APRC?

For MCD regulated mortgages there is an additional requirement. Where the rate of interest or charges applied to the mortgage are variable, the lender must include a second APRC figure in the ESIS or as part of the KFI top-up. The calculation provides a warning about the possibility of an increase in interest rates or charges and the effect they may have.

FIGURE 20.6 WHAT ARE THE RULES FOR THE SECOND APRC?

- £ Where the interest rate is capped, the second APRC must assume the rate rises to the capped limit at the earliest point
- £ Where the mortgage is on an uncapped variable-rate basis, the second APRC must use the product's highest borrowing rate over the previous 20 years
- £ Where the interest rate is linked to an external index or benchmark (eg base rate trackers) the APRC must use the highest rate for that index or benchmark in the past 20 years
- £ Where a lender does not use an external reference rate, it must use the highest value of a benchmark rate specified by the FCA, another competent authority or the European Banking Authority

The usefulness of the APRC has been questioned by many experts, particularly with the growth in the number of fixed-rate mortgages. In addition, the requirement for a second APRC for MCD regulated mortgages may result in further confusion among borrowers.

An advertisement that gives the 'flat' rate of interest for a mortgage must also show the equivalent APRC, and show it more prominently than the flat rate. A general advertisement that does not include a flat interest rate does not need to show an APRC.

**THINK AGAIN ...**

Now that you have completed this topic, how has your knowledge and understanding improved?

For instance, can you:

- describe how a capital repayment mortgage works?
- explain the advantages and disadvantages of this repayment method?
- describe how an interest-only mortgage works?
- explain the risks associated with this type of mortgage?
- outline the different ways of charging interest and the advantages and disadvantages to the borrower of each?
- explain what is meant by the 'APRC'?
- list the costs and charges included in the TCC?

Go back over any points you don't understand and make notes to help you revise.

Test your knowledge before moving on to the next topic.



Test your knowledge

Use these questions to assess your learning for Topic 20. Review the text if necessary.

Answers can be found at the end of this book.

- 1) In the first year of a capital repayment mortgage, repayments are mainly interest. True or false?
- 2) Capital repayment mortgages offer borrowers the possibility of a capital surplus at the end of the term. True or false?
- 3) Cathy has a capital repayment mortgage of £150,000 over a 25-year term. The interest rate is 3 per cent on an annual rest basis and her monthly repayment is £711 (to the nearest whole pound). Calculate how much of the capital she will repay in the first year.
- 4) Greg has a capital repayment mortgage on which the interest rate has just increased. Greg's lender has agreed that he can maintain his monthly repayments at the level prior to the rate increase. What effect will this have?
 - a) The mortgage term will decrease.
 - b) The mortgage term will increase.
 - c) The mortgage term will not be affected.
 - d) Greg's lender will require him to make overpayments later in the term.
- 5) One advantage of an interest-only mortgage is that the capital is guaranteed to be repaid at the end of the term. True or false?
- 6) Gordon wishes to arrange an interest-only mortgage to buy his new property. Which of the following repayment strategies would be **most unlikely** to be acceptable to the lender?
 - a) An ISA funded monthly.
 - b) Allocating his quarterly bonus payments to reduce the capital balance.
 - c) A potential inheritance as the beneficiary of his 65-year-old aunt's will.
 - d) A unit-linked endowment policy.

- 7) A second annual percentage rate of charge (APRC) is **not** required for which of the following Mortgage Credit Directive (MCD) regulated mortgages?
 - a) Variable rate.
 - b) Capped rate.
 - c) Fixed rate.
- 8) The daily rest basis of calculating interest is advantageous to people who are often late with their mortgage repayments. True or false?
- 9) Which of the following is true of an interest-only retirement mortgage?
 - a) Lender must assess the borrower's ability to meet the mortgage payments.
 - b) Lenders are required to carry out annual reviews to check any associated repayment strategy at least once during the term.
 - c) no regular payments are required from the borrower.
- 10) Which of the following is excluded from the APRC calculation?
 - a) Valuation fees.
 - b) Higher lending charges.
 - c) Redemption charges for sealing the mortgage deed.
 - d) Early repayment charges.

