Concept – Real Cost

If you are making a purchase there are generally two ways to get the items you want. You can pay with cash or on a debit card, or you can use credit.

Paying with credit means you enter an agreement where you will repay the cost of what

you purchase over time, so these agreements are often called _____

These agreements fall into three main groups:

1. _____

2. _____

3. _____

When choosing one of these agreements we need to know the _____
of each so that we can compare them and choose the best option.

In this sheet Mr Hyslop is interested in purchasing a new hutch for his prize winning purebred Holland Lop bunnies. The hutch is top of the line and will cost $5800 from Hutches-R-Us.

Hire-Purchase Agreements
In a hire-purchase agreement, you will take the item you have purchased and then pay it off by making regular payments of an agreed amount. When all the payments have been made, you own the item. If you don't make all the payments the item is often reposesed.

In these agreements you are often told what each repayment will be, but not the interest rate. There are two types of interest rate we may want to find.

$$r_f = \frac{100 \times I}{P \times t} \qquad\qquad r_e = \frac{100I}{Pt} \times \frac{2n}{n+1}$$

Eg: Hutches-R-Us offer a hire-purchase option where Mr Hyslop needs to pay a $600 deposit then 12 monthly payments of $506. Calculate the flat rate of interest and the effective rate of interest of this agreement.

Personal Loan

A personal loan is often taken out with a bank or building society. In a personal loan you need to pay back the principle, any interest and often bank fees and charges but you don't need a deposit.

Again you want to calculate the flat and effective interest rates.

$$r_f = \frac{100 \times I}{P \times t} \qquad r_e = r_f \times \frac{2n}{n+1}$$

Eg: Mr Hyslop's bank, Warren Banking Pty. Ltd., will give him a personal loan to buy the hutch. They have an annual fee of $265 and Mr Hyslop will need to make 26 fortnightly repayments of $260. Calculate the flat rate of interest and the effective rate of interest of this loan.

Credit Card

Having a credit card lets you borrow money, up to the limit of the card, whenever you want. Credit cards charge interest on the debt on the card, and this is often compounded daily.

To calculate the amount payable on a credit card debt, and how much of this is interest, use the equations below.

$$A = P\left(1 + \frac{\frac{r}{365}}{100}\right)^n \qquad I = A - P$$

Eg: Mr Hyslop also has a credit card which charges 19% p.a. How much will it cost him to buy the hutch on this credit card if he pays it off in one year, and how much of this is interest?

Should Mr Hyslop use his credit card, get a personal loan or enter a hire purchase agreement to get his new hutch? Justify your answer.

Worked Example

Include an example of one calculation of the time payment agreement you find most difficult.