

# 2004

## Question 1 and 2

Q1 (a) The area of a house covers  $205 \text{ m}^2$ .

The area of the site for the house covers  $1025 \text{ m}^2$ .

What the ratio of the area of the house to the area of the site?

Give your answer in the form  $1:n$ , where  $n \in \mathbb{N}$ .

(b) (ii) John has a gross income per fortnight of €1750

The standard rate of income tax is 20% and the higher rate is 42%. He has tax credits of €105 per fortnight and his standard rate cut-off point is €1295 per fortnight.

After tax is paid, what is John's net income per fortnight?

Q2. (b) (i) The price of a playstation game is €59.99.

In a sale the price of the playstation is reduced to €49.99.

What is the percentage reduction on the original price of the game in the sale?

Give your answer correct to the nearest whole number.

## Solution

Q1 (a) The area of a house covers  $205 \text{ m}^2$ .

The area of the site for the house covers  $1025 \text{ m}^2$ .

What the ratio of the area of the house to the area of the site?

Give your answer in the form  $1:n$ , where  $n \in \mathbb{N}$ .

$$205 : 1025 = \frac{205}{1025} = \frac{1}{5}$$

$$1 : 5$$

- (b) (ii) John has a gross income per fortnight of €1750  
The standard rate of income tax is 20% and the higher rate is 42%. He has tax credits of €105 per fortnight and his standard rate cut-off point is €1295 per fortnight.

After tax is paid, what is John's net income per fortnight?

€1295 at lower rate  
€455 at higher rate

Find 20% of €1295 = €259  
Find 42% of €455 = €191.1  
Gross tax = €450.1

$$\begin{array}{r} \text{Gross tax} = \text{€}450.1 \\ \text{Tax credits} = \text{€}105 \\ \hline \text{Tax paid} = \text{€}345.10 \end{array}$$

Take home pay = €1750 - €345.10 = €1404.90

Q2. (b) (i) The price of a playstation game is €59.99.

In a sale the price of the playstation is reduced to €49.99.  
What is the percentage reduction on the original price of the game  
in the sale?

Give your answer correct to the nearest whole number.

$$\text{Reduction} = €59.99 - €49.99 = €10$$

$$\frac{10}{59.99} \times \frac{100}{1} = 16.6\% = 17\%$$