GCSE HIGHER · REVISION MAT 2

Growth, decay and compound interest

1 Find the simple interest on £800 at 5% per year for 2 years.

2 Write down the multiplier for depreciation of 15% per year.

3 Jon says 10% compound interest for 3 years gives a 30% increase.

Show that he is wrong.

4 £4500 is saved at 2.5% compound interest per year for 3 years.

How much interest is earned?

5 A population of 80 000 falls by 5% each year.

Show that it is 68 590 after 3 years.

6 A house rises in value by 6% each year.

After how many whole years has its value first risen by more than 50%?

7 $x_{n+1} = 3 + \frac{2}{x_n}$ and $x_1 = 3$.

Find x_2 and x_3 to 3 d.p.

8 A value falls by the same percentage each year.

It falls from 500 to 405 in 2 years.

Find the percentage.

Mr&Mrs MATHS

ANSWERS · REVISION MAT 2

Growth, decay and compound interest

1 $800 \times 0.05 \times 2$

£80

2 **0.85**

3 $1.1^3 = 1.331$

It is a 33.1% increase.

4 $4500 \times 1.025^3 = 4845.95$

£345.95

5 $80\,000 \times 0.95^3$

= 68 590

6 $1.06^6 = 1.419$, $1.06^7 = 1.504$

7 years

7 $x_2 = 3 + \frac{2}{3} = 3.667$

$x_3 = 3 + \frac{2}{3.667} = 3.545$

8 $\frac{405}{500} = 0.81$

$\sqrt{0.81} = 0.9$

10% per year