GCSE FOUNDATION · REVISION MAT 5

Growth, decay and compound interest

1 £2,500 is invested at 3% **simple** interest per year.

Work out the total interest after 2 years.

2 £3,000 is invested at 4% **compound** interest per year.

Work out the value after 2 years.

3 Fay says,

"50% compound interest for 2 years is the same as 100% simple interest."

Explain why Fay is wrong.

4 A van costs £4,000.

Its value falls by 10% each year.

Show that it is worth £3,240 after 2 years.

5 Joe has £6,000 to invest for 4 years.

Account A: 3.5% simple interest per year

Account B: 3.3% compound interest per year

Which account gives more interest? Show your working.

6 The population of a village is 900.

It grows by 12% each year.

After how many years will the population first be more than 1,400?

Mr&Mrs MATHS

ANSWERS · REVISION MAT 5

Growth, decay and compound interest

1 Interest per year = £75

2 × £75 = **£150**

2 £3,000 × 1.04^2

= **£3,244.80**

3 Each year's interest is added on, so the next year's interest is worked out on a bigger amount.

1.5^2 = 2.25, a **125%** increase, not 100%

4 £4,000 × 0.9^2 = **£3,240** ✓

5 A: £6,000 × 0.035 × 4 = £840.00

B: £6,000 × 1.033^4 – £6,000 = £832.07

Account A gives more.

6 × 1.12 each year: 1,008, 1,129, 1,264, 1,416

4 years