GCSE HIGHER · REVISION MAT 3

Growth, decay and compound interest

1 Find the simple interest on £1200 at 3% per year for 4 years.

2 £350 increases by 8%.

Find the new value.

3 Explain why the multiplier for a 20% decrease is 0.8.

4 £5000 is invested for 3 years.

Bank A: 4% simple interest.

Bank B: 3.8% compound interest.

Which bank pays more interest?

5 A £6000 car loses 20% of its value each year.

Show that it is worth £3072 after 3 years.

6 A tree is 2 m tall and grows by 15% each year.

Find its height after 5 years.

7 $x_{n+1} = \sqrt{x_n + 6}$ and $x_1 = 2$.

Show that $x_3 \approx 2.97$.

8 The amount of a drug in the blood halves every 4 hours.

80 mg is given.

How much is left after 1 day?

Mr&Mrs MATHS

ANSWERS · REVISION MAT 3

Growth, decay and compound interest

1 **£144**

2 350×1.08

£378

3 **100% – 20% = 80% = 0.8**

4 A: £600

B: $5000 \times 1.038^3 - 5000 = £591.97$

Bank A

5 6000×0.8^3

= 3072

6 2×1.15^5

4.02 m

7 $x_2 = \sqrt{8} = 2.828$

$x_3 = \sqrt{8.828} = 2.971$

8 6 halvings

80×0.5^6

1.25 mg

Mr&Mrs MATHS