SMART EXAM RESOURCES
TOPIC : NUMBERS
SUB-TOPIC:COMPOUND INTEREST
SET-3-QP-MS

1 Hazel invests $1800 for 7 years at a rate of 1.5% per year compound interest.

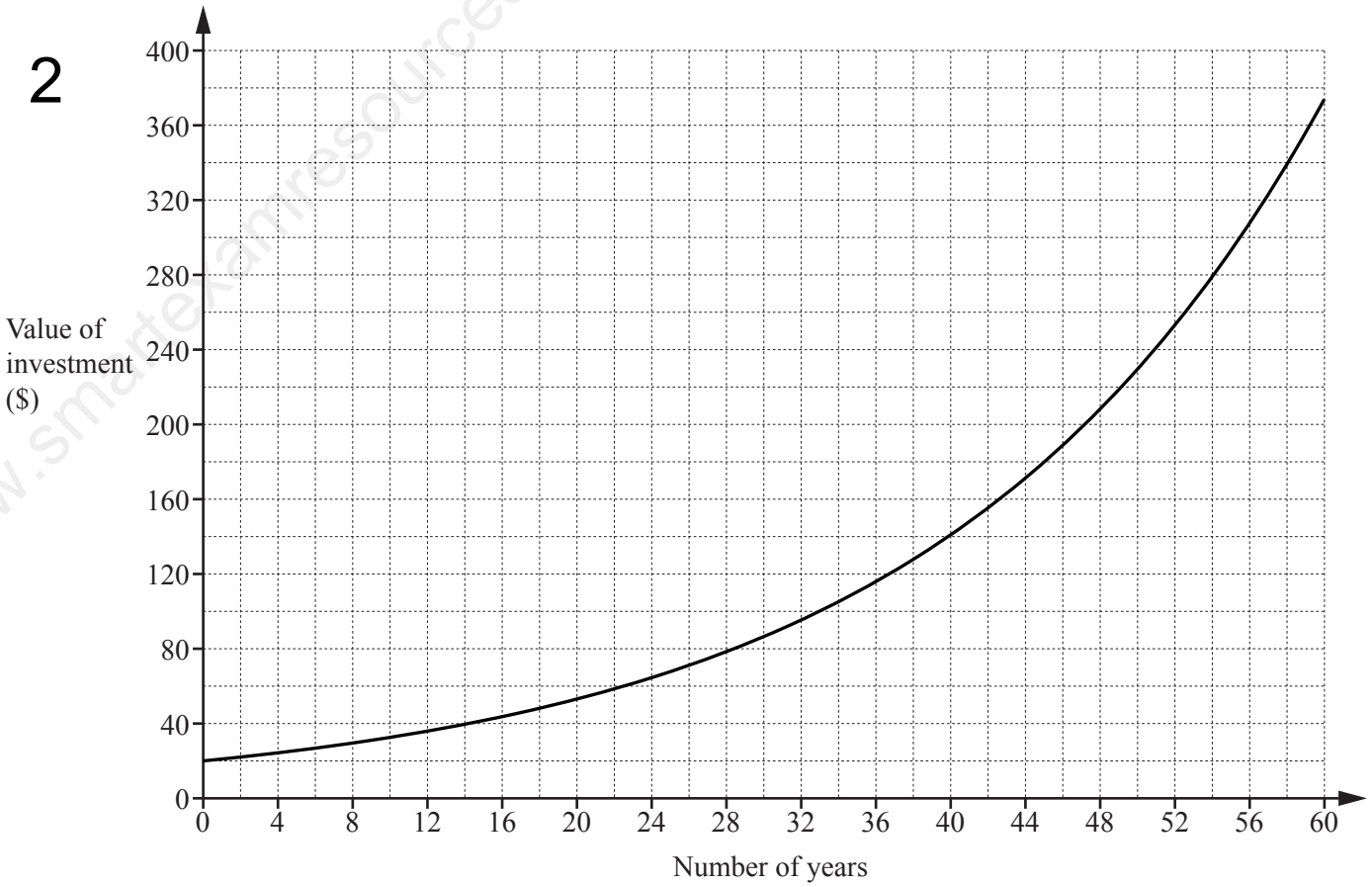
Calculate how much interest she will receive after the 7 years.
Give your answer correct to the nearest dollar.

Answer $ ..... [4]

MARK SCHEME:

198	**4**	**B3** for 197.7…. or answer 198.00 or **M2** for $1800 \times \left(1+\frac{1.5}{100}\right)^{7} - 1800$ or **B2** for answer 1998 or **M1** for $1800 \times \left(1+\frac{1.5}{100}\right)^{7}$ If **B0** then **B1** for seeing their answer in decimal form correctly written to the nearest integer

2



When Heidi was born, her grandfather invested some money in an account that paid compound interest. The graph shows the exponential growth of this investment.

(a) Use the graph to find

(i) the original amount of money invested,

$ ..... [1]

(ii) the number of years it took for the original amount to double,

..... years [1]

(iii) the value of the investment after 54 years.

$ ..... [1]

(b) This account earned compound interest at a rate of r% per year.

Use your answers to **part (a)(i)** and **part (a)(ii)** to write down an equation in terms of r.
You do not have to solve your equation.

..... [2]

MARK SCHEME:

20	**1**	
14	**1**	**FT** part **(i)** providing 20 < part **(i)** ⩽ 40
280	**1**	
$2[\times 20]=[20]\left(1+\frac{r}{100}\right)^{14}$ oe isw	**2**	**FT** 2 marks for $2[\textit{their}\ \textbf{(a)(i)}]=[\textit{their}\ \textbf{(a)(i)}]\left(1+\frac{r}{100}\right)^{\textit{their}\textbf{(a)(ii)}}$ **M1** for $n(x)^{14}$ or $n(x)^{\textit{their}\textbf{(a)(ii)}}$ oe seen isw