

| Interest and Compound Interest L2 Mark Scheme | | |
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| 1(a) | $100 \times 1.07 (= 107)$ | [1] |
| | £107 | [1] |
| 1(b) | $15000 \times 1.01 (= 15150)$ | [1] |
| | £15150 | [1] |
| 1(c) | $50 \times 1.04 (= 52)$ | [1] |
| | £52 | [1] |
| 1(d) | $350 \times 1.18 (= 413)$ | [1] |
| | £413 | [1] |
| 1(e) | $31 \times 1.03 (= 31.93)$ | [1] |
| | £31.93 | [1] |
| 1(f) | $116 \times 1.49 (= 172.84)$ | [1] |
| | £172.84 | [1] |
| 1(g) | $25.5 \times 1.02 (= 26.01)$ | [1] |
| | £26.01 | [1] |
| 1(h) | $16384 \times 1.28 (= 20971.52)$ | [1] |
| | £20971.52 | [1] |
| 1(i) | $65 \times 2.12 (= 137.80)$ | [1] |
| | £137.80 | [1] |
| 1(j) | $998.50 \times 1.06 (= 1058.41)$ | [1] |
| | £1058.41 | [1] |
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| 2(a) | $1000 \times 0.05 = \text{£}50$ interest | [1] |
| | $1000 + 50 = \text{£}1050$ balance | [1] |
| 2(b) | $4000 \times 0.02 = \text{£}80$ interest | [1] |
| | $4000 + 80 = \text{£}4080$ balance | [1] |
| 2(c) | $750 \times 0.1 = \text{£}75$ interest | [1] |
| | $750 + 75 = \text{£}825$ balance | [1] |
| 2(d) | $10000 \times 0.01 = \text{£}100$ interest | [1] |
| | $10000 + 100 = \text{£}10100$ balance | [1] |
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| 3(a) | A: $10000 \times 1.01 = \text{£}10100$ | [1] |
| | B: $9900 \times 1.02 = \text{£}10098$ | [1] |
| | C: $9810 \times 1.03 = \text{£}10104.3$ | [1] |
| | C produces the most. | [1] |
| 3(b) | A: $15000 \times 1.12 = \text{£}16800$ | [1] |
| | B: $18000 \times 1.1 = \text{£}19800$ | [1] |
| | C: $13000 \times 1.15 = \text{£}14950$ | [1] |
| | B produces the most. | [1] |
| 3(c) | A: $100 \times 1.06 = \text{£}106$ | [1] |
| | B: $130 \times 1.04 = \text{£}135.2$ | [1] |
| | C: $115 \times 1.05 = \text{£}120.75$ | [1] |
| | B produces the most. | [1] |
| 3(d) | A: $199 \times 1.29 = \text{£}256.71$ | [1] |
| | B: $249 \times 1.24 = \text{£}308.76$ | [1] |
| | C: $149 \times 1.34 = \text{£}199.66$ | [1] |
| | B produces the most. | [1] |
| 3(e) | A: $10.4 \times 1.25 = \text{£}13$ | [1] |
| | B: $10 \times 1.24 = \text{£}12.40$ | [1] |
| | C: $11 \times 1.23 = \text{£}13.53$ | [1] |
| | C produces the most. | [1] |
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| 4(a) | $15000 \times 0.01 = \text{£}150$ | [1] |
| | $15000 + 150 = \text{£}15150$ | [1] |
| 4(b) | $9000 \times 0.03 = \text{£}270$ | [1] |
| | $9000 + 270 = \text{£}9270$ | [1] |
| 4(c) | $10000 \times 0.02 = \text{£}200$ | [1] |
| | $10000 + 200 = \text{£}10200$ | [1] |
| 4(d) | Bob earns the most interest, Alice has the most money at the end. | [1] |
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| 5(a) | $1000 \times 1.02 \times 1.02 \times 1.02 (= 1061.208)$ | [1] |
| | £1061.21 | [1] |
| 5(b) | $100 \times 1.02 \times 1.02 \times 1.02 (=106.1208)$ | [1] |
| | £106.12 | [1] |
| 5(c) | $250 \times 1.02 \times 1.02 \times 1.02 (= 265.302)$ | [1] |
| | £265.30 | [1] |
| 5(d) | $3400 \times 1.02 \times 1.02 \times 1.02 (= 3608.1072)$ | [1] |
| | £3608.11 | [1] |
| 5(e) | $144 \times 1.02 \times 1.02 \times 1.02 (= 152.813952)$ | [1] |
| | £152.81 | [1] |
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| 6(a) | $15000 \times 1.01 \times 1.01 \times 1.01 (= 15454.515)$ | [1] |
| | Alice's balance is £15454.52 | [1] |
| | $15454.515 - 15000 (= 454.515)$ | [1] |
| | Alice earns £454.52 interest. | [1] |
| 6(b) | $9000 \times 1.03 \times 1.03 \times 1.03 (= 9834.543)$ | [1] |
| | Bob's balance is £9834.54 | [1] |
| | $9834.543 - 9000 (= 834.543)$ | [1] |
| | Bob earns £834.54 interest. | [1] |
| 6(c) | $10000 \times 1.021 \times 1.021 \times 1.021 (= 10643.32261)$ | [1] |
| | Chloe's balance is £10643.32 | [1] |
| | $10643.32 - 10000 (= 643.32261)$ | [1] |
| | Chloe earns £643.32 interest. | [1] |
| 6(d) | Bob earns the most interest. | [1] |
| | Alice has the most money in the end. | [1] |
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| 7(a) | $10000 \times 1.01 \times 1.01 (= 10201)$ | [1] |
| | A: £10201 | [1] |
| | $9800 \times 1.08 \times 1.08 (= 11430.72)$ B: £11430.72 | [1] |
| | $9640 \times 1.05 \times 1.05 \times 1.05 (= 11159.505)$ C: £11159.51 | [1] |
| | B produces the most. | [1] |
| 7(b) | $110000 \times 1.19 \times 1.19 (= 155771)$ | [1] |
| | A: £155771 | [1] |
| | $130000 \times 1.18 \times 1.18 \times 1.18 (= 213594.16)$ B: £213594.16 | [1] |
| | $199000 \times 1.1 \times 1.1 \times 1.1 (= 264869)$ C: £264869 | [1] |
| | C produces the most. | [1] |
| 7(c) | $10 \times 1.06 \times 1.06 \times 1.06 (= 11.91016)$ | [1] |
| | A: £11.91 | [1] |
| | $13 \times 1.04 \times 1.04 (= 14.0608)$ B: £14.06 | [1] |
| | $11.5 \times 1.05 \times 1.05 \times 1.05 (= 13.3126875)$ C: £13.31 | [1] |
| | B produces the most. | [1] |

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| 8(a) | $875 \times 12 (= 10500)$, $45 \times 12 (= 540)$, $30 \times 12 (= 360)$, | [1] |
| | $28 \times 12 (= 336)$, $24 \times 52 (= 1248)$, $20 \times 12 (= 240)$ | [1] |
| | $15 \times 52 (= 780)$, $100 \times 12 (= 1200)$, $10 \times 52 (= 520)$ | [1] |
| | $220 + 10500 + 540 + 360 + 336 + 1248 +$ $240 + 780 + 520 + 1200 = \text{£}15944$ | [1] |
| 8(b) | Yes (because 18000 is greater than 15944) | [1] Allow error carried forward from previous part |
| 8(c) | 18000×0.97 | [1] |
| | £17460 | [1] |
| 8(d) | $25000 - 17460 (= 7540)$ | [1] Allow error carried forward from previous part |
| | $7540 \div 12 (= 628.333 \dots)$ | [1] Allow error carried forward from previous part |
| | £628.33 | [1] |
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| 9(a) | Carl because 10500 is less than 12570 | [1] |
| 9(b) | $28000 - 12570 (= 15430)$ | [1] |
| | $15430 \times 0.2 (= 3086)$ | [1] |
| | £3086 | [1] |
| 9(c) | $50270 - 12570 (= 37700)$ $55000 - 50270 (= 4730)$ | [1] |
| | $37700 \times 0.2 (= 7540)$ | [1] |
| | $4730 \times 0.4 (= 1892)$ | [1] |
| | $7540 + 1892 = \text{£}9432$ | [1] |
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