The Panda Math Tutor

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Money: Earning, Borrowing, Investing & Trade

Solutions & Answer Key

Full worked solutions, marking scheme & answer key

IGCSE Mathematics

The Panda Math Tutor

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Companion to the *Student Worksheet*

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Note

About this booklet. These are the complete solutions to every question in the *Money: Earning, Borrowing, Investing & Trade — Student Worksheet*. Question numbers match exactly (E1–E7, P1–P7, SI1–SI6, CI1–CI7, G1–G6, B1–B6, BS1–BS7, BB1–BB3, FX1–FX6, the Mixed Review MR1–MR10, and the examination questions Q1–Q8).
Each solution follows the notes' reasoning pattern — identify what is given, state what is required, choose the method *and say why it fits*, work through it, then check. Unrounded values are carried through every intermediate step and rounding is applied only at the final answer. Part V collects the common traps to watch for, and Part VI is a quick answer key for fast marking.

4 Part IV — Complete Solutions

Note

Each solution follows the same reasoning pattern used in the notes: identify what is given, decide what is required, choose the method *and say why it fits*, work through it, then check. Depth is scaled to difficulty — brief for basic questions, fuller for harder ones.

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4.1 Solutions — Earning Money

Solution E1

Basic wage = hourly rate × hours = $32 \times £11.80 = £377.60$.

Solution E2

(a) Time-and-a-half: $£14.20 \times 1.5 = £21.30$ per hour.

(b) Double time: $£14.20 \times 2 = £28.40$ per hour.

Solution E3

Basic pay: $38 \times £12.50 = £475.00$.
Overtime rate: $£12.50 \times 1.5 = £18.75$ per hour.
Overtime pay: $6 \times £18.75 = £112.50$.
Gross pay: $£475.00 + £112.50 = £587.50$.

Solution E4

(a) Monthly salary: $\dfrac{£32\,760}{12} = £2\,730$.

(b) Sales above the threshold: $£18\,400 - £3\,000 = £15\,400$. Commission:

$$5\% \times £15\,400 = 0.05 \times 15\,400 = £770.$$

(c) Total March earnings: $£2\,730 + £770 = £3\,500$.

Note that commission is paid only on the sales *above* the threshold, not on all £18 400.

Solution E5

Taxable income (the amount above the personal allowance):

$$£2\,850 - £1\,048 = £1\,802.$$

Income tax: $20\% \times £1\,802 = £360.40$.
National Insurance: $8\% \times £1\,802 = £144.16$.
Pension (5% of *gross*, not of the taxable portion): $5\% \times £2\,850 = £142.50$.
Total deductions: $£360.40 + £144.16 + £142.50 = £647.06$.
Net pay: $£2\,850 - £647.06 = £2\,202.94$.

Common Mistake

Tax and NI are charged on the taxable portion (gross minus the allowance), but the pension percentage is taken from the *full* gross pay. Applying all three to the same base is the commonest error in this type of question.

Solution E6

(a) Standard pay: $36 \times £9.60 = £345.60$.
Double-time rate: $£9.60 \times 2 = £19.20$ per hour, so Sunday pay is $5 \times £19.20 = £96.00$.

$$\text{Gross pay} = £345.60 + £96.00 = £441.60.$$

(b)

$$\frac{96.00}{441.60} \times 100 = 21.739\ldots\% \approx \mathbf{21.7}\%.$$

So a little over a fifth of her pay that week came from just 5 of her 41 hours.

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Preview ends here

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