

Exercise walk-through

E1.16

Money

IGCSE Mathematics

You must be able to

- convert an amount from one currency to another, in both directions
- decide whether to multiply or divide by the exchange rate
- calculate wages, bills and totals, giving money answers to 2 decimal places

1

The method

Method — Decide the direction before touching the calculator

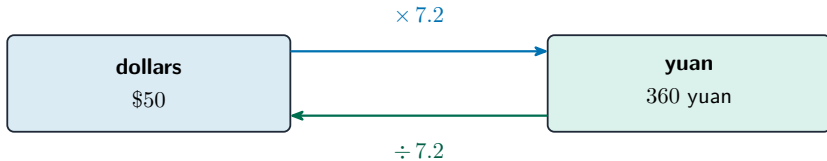
- **Rate** \$1 = 7.2 **yuan**: dollars $\rightarrow$ yuan **multiply**; yuan $\rightarrow$ dollars **divide**.
\$50 = 360 yuan and 504 yuan = \$70.
- **Check the size**. If the currency is worth less per unit, the number of them should be bigger. A conversion that makes the number smaller in the wrong direction has been divided instead of multiplied.
- **Money is written to 2 decimal places**: \$27.05, not \$27.5.
- **Overtime**: pay the normal rate up to the normal hours, then the overtime rate on the extra hours only.

Answer shapes (marked by **method marks** — M1 for a correct method, A1 for the correct answer): the multiplication or division by the rate is the method mark, so write it down even if the calculator does the rest.

Method — Decide the direction before touching the calculator

Answer shapes (marked by method marks — M1 for a correct method, A1 for the correct answer): the...

Exchange rate: \$1 = 7.2 yuan



Decide the direction first. Going to the currency the rate counts *per dollar* you multiply; coming back you divide. If the answer comes out far bigger or far smaller than it should, the two were swapped.

Converting between dollars and yuan: multiply one way, divide the other

2

Practice

Practice 2.1 ■ 2 marks

Convert 504 yuan into dollars.

Solution 2.1

Method: Decide the direction before touching the calculator — p.4

Worked steps

■ yuan to dollars, so divide by the rate: $504 \div 7.2$ **M1**

= \$70

A1

Practice 2.2 ■ 1 mark

Convert \$85 into yuan.

Solution 2.2

Method: Decide the direction before touching the calculator — p.4

Worked steps

■ dollars to yuan, so multiply: 85×7.2

= **612** yuan

B1

Practice 2.3 ■ 2 marks

A shop sells 3 items at \$4.75 each and 2 items at \$6.40 each. Find the total cost.

Solution 2.3

Worked steps

■ $3 \times 4.75 = \$14.25$ and $2 \times 6.40 = \$12.80$ **M1**

$$14.25 + 12.80 = \$\mathbf{27.05}$$

A1

3

Exam-style

Exam-style 3.1 ■ 4 marks

The exchange rate is $\$1 = 0.92$ euros.

Exam-style 3.1 (a) ■ 2 marks

A camera costs 368 euros. Calculate its cost in dollars.

Solution 3.1 (a)

Method: Decide the direction before touching the calculator — p.4

Worked steps

■ euros to dollars, so divide: $368 \div 0.92$ **M1**

$= \$400$

A1

Exam-style 3.1 (b) ■ 2 marks

The same camera costs \$415 in another country. State which is cheaper, and by how much in dollars.

Solution 3.1 (b)

Worked steps

- compare \$400 with \$415 **M1**

the camera at 368 euros is **\$15** cheaper

A1

Exam-style 3.2 ■ 3 marks

A worker is paid \$16.50 an hour for a normal week of 38 hours. Any extra hours are paid at \$24.75 an hour. In one week she works 44 hours. Calculate her total pay for that week.

Solution 3.2

Method: Decide the direction before touching the calculator — p.4

Worked steps

- normal pay = $38 \times 16.50 = \$627.00$ (M1)
- overtime hours = $44 - 38 = 6$, so overtime pay = $6 \times 24.75 = \$148.50$ (M1)

$$627.00 + 148.50 = \$\mathbf{775.50} \quad (\mathbf{A1})$$