

C1.16 Money

Name: _____ Class: _____ Date: _____

Total: 20 marks**KEY WORDS** exchange rate 汇率 • rate 比率 • decimal place 小数位 • decimal 小数

Objective

Use money to solve Core IGCSE Mathematics problems.

You must be able to:

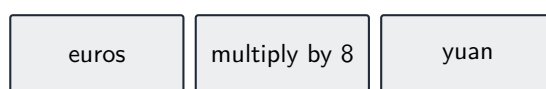
- Calculate receipts, change and charges
- Apply an exchange rate in the correct direction
- Compare offers after fees and round money to two decimal places

1 Key knowledge and worked examples

■ Key knowledge: Money

Add costs and subtract payments using consistent currency units. Money answers normally have two decimal places. For exchange rates, write the direction of the rate: if 1 euro buys 8 yuan, multiply euros by 8 to find yuan and divide yuan by 8 to find euros. Handle any fee at the stage stated in the question.

■ Worked example: Money



At 1 euro = 8 yuan, exchange 45 euros.

- The rate is 8 yuan per euro: $Y = 8E = 8(45) = 360$ yuan.
- If a 12-yuan fee is taken afterwards, $Y_{\text{received}} = 360 - 12 = 348$ yuan.
- In reverse, $E = Y/8 = 200/8 = 25$ euros. Check the conversion returns the starting value.

■ Method check

Write the units in an exchange rate. Multiplying by yuan per euro converts euros to yuan; a fixed fee must then be deducted once.

2 Practice

2.1 Buy four pens at 3.75 yuan each. Find the cost. [2]

2.2 Pay 50 yuan for items costing 32.80 yuan. Find the change. [2]

2.3 At 1 pound = 9.2 yuan, convert 35 pounds to yuan. [2]

2.4 At the same rate, convert 460 yuan to pounds. [2]

3 Exam-style questions

3.1 Apply the money methods below. Show working and include units where appropriate.

(a) A visitor has 80 euros. A desk offers 1 euro = 7.8 yuan. Find the amount before a fee. [2]

(b) The desk deducts a 15-yuan fee. Find the amount received. [2]

(c) Another desk offers 1 euro = 7.6 yuan with no fee. Which desk gives more, and by how much? [2]

3.2 A visitor changes 150 euros. Desk A offers 7.85 yuan per euro and charges 20 yuan. Desk B offers 7.72 yuan per euro without a fee.

(a) Calculate the yuan received at each desk and decide which offer is better. [3]

(b) Using the better desk, the visitor buys two tickets at 86.50 yuan and lunch for 42.80 yuan. Find the remaining money and decide whether it is enough for a third ticket. [3]

Solutions

Award method and answer marks as indicated; accept equivalent correct methods.

2.1

- $C = np = 4(3.75) = \mathbf{15.00}$ yuan.

2.2

- $R = 50 - 32.80 = \mathbf{17.20}$ yuan.

2.3

- $Y = 9.2P = 9.2(35) = \mathbf{322.00}$ yuan.

2.4

- $P = Y/9.2 = 460/9.2 = \mathbf{50.00}$ pounds.

3.1

(a)

- $Y = 7.8(80) = \mathbf{624.00}$ yuan.

(b)

- $Y = 624 - 15 = \mathbf{609.00}$ yuan.

(c)

- $Y_2 = 7.6(80) = 608$ yuan. **The first desk gives 1.00 yuan more.**

3.2

(a)

- Desk A: $Y_A = 150(7.85) - 20 = \mathbf{1157.50}$ yuan.
- Desk B: $Y_B = 150(7.72) = \mathbf{1158.00}$ yuan.
- B is better by **0.50 yuan**.

(b)

- Total spending $C = 2(86.50) + 42.80 = 215.80$ yuan.
- Remaining $R = 1158.00 - 215.80 = \mathbf{942.20}$ yuan.
- A third ticket can be bought, since 942.20 is greater than 86.50.