

## Calculate with Exchange and Conversion Rates – iNA6

Calculating with exchange rates involves multiplying to convert to one currency and dividing to convert backwards. This is similar to the inverse concept that is used in iNA5 and below we can see a number machine to represent the conversion.

### Example

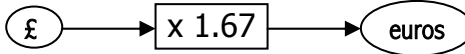
£1 is worth €1.67

a) Change £300 into €s

b) Change €43.42 into £s

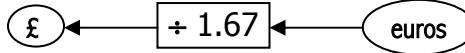
### Solution

£1 is worth €1.67 means → → →



a)  $300 \times 1.67 = €501$

backwards we have → → →



b)  $43.42 \div 1.67 = £26$

### Your Turn!!

\$1 is worth €1.06

a) Change \$15.5 into €s

b) Change €16.43 into \$s

1 metre = 39.37 inches

c) Change 2.3 metres into inches

d) Change 4015.74 inches into metres

### RAPID 'ACID' TEST – Blank out the page above before answering these!

1. £1 is worth €1.77

a) Change £255 into €s

b) Change €1947 into £'s

## Use Division to Solve Value for Money & Simple Ratio Style Problems (iNA7)

### Value for Money

By dividing and comparing we can work out the best value for money of certain items.

### Example

Say a coffee Jar contains 180g and costs £3.

Dividing the **weight** by the **cost** gives us the **weight per unit cost**, so  $180g \div £3 = 60g \text{ per } £$ .

Dividing the **cost** by the **weight** gives us the **cost per unit weight**, so  $£3 \div 180g = 0.01666... £ \text{ per } g$ .

Either division can allow us to work out **best value**. Where we have **weight per unit cost**, look for the **biggest number** for best value. Where we have **cost per unit weight**, look for the **smallest number** for best value.

### Extended Example

Work out the best and worst value in coffee where; coffee jar 1 contains 180g and is specially priced at £3, jar 2 contains 1kg and is specially priced at £16.00 and jar 3 contains 2kg and is specially priced at £20.

### Solution

Jar1:  $180g \div £3 = 60g \text{ per } £$

Jar2:  $1000g \div £16 = 62.5g \text{ per } £$

Jar3:  $2000g \div £20 = 100g \text{ per } £$

So best value is Jar 3 and the worst value is Jar 1.

### Alternative Solution

Jar1:  $£3 \div 180g = 0.01666... £ \text{ per } g$

Jar2:  $£16 \div 1000g = 0.016 £ \text{ per } g$

Jar3:  $£20 \div 2000g = 0.01 £ \text{ per } g$

So best value is Jar 3 and the worst value is Jar 1.

### Your Turn!!

Jane sees some A3 paper costing £3 for 225 sheets

a) How many sheets is this per £?

Jim sees two offers. Paper offer A costs £5.80 for 500 A4 sheets. Paper offer B costs £6 for 600 A4 sheets.

b) i) Which is the better A4 paper offer, A or B? ii) What is the price difference **in pence**, per sheet?

### Simple Ratio Style Problems

Again these are solved by **division** giving the **cost of a single item** and then by **multiplication** you can work out the cost of the required number of items.

### Example

If 16 stamps cost £13.44 how much do 7 cost?

### Solution

$£13.44 \div 16 = £0.84 \text{ per stamp}$ . So 7 stamps cost,  $7 \times 0.84 = £5.88$

### Your Turn!!

c) 12 pens cost £4.20, how much do 16 cost?

### RAPID 'ACID' TEST – Blank out the page above before answering these!

- Work out the best and worst value in coffee where; coffee jar 1 contains 210g and is specially priced at £3, jar 2 contains 426g and is specially priced at £6.00 and jar 3 contains 500g and is specially priced at £6.45.
- 16 pens cost £8.80, how much do 12 cost?