GCSE FOUNDATION · REVISION MAT 2

Direct and inverse proportion

1 4 muffins cost £2.60.

Work out the cost of 10 muffins.

2 A recipe for 6 people uses 450 g of rice.

How much rice is needed for 8 people?

3 It takes 3 builders 10 days to build a wall.

Bea says it will take 6 builders 20 days.

Explain why Bea is wrong.

4 Here are some values of x and y.

x	3	6	10
y	12	24	38

Is y directly proportional to x?
Show how you decide.

5 £1 = $1.25

A jacket costs $80 in New York and £66 in London.

In which city is it cheaper? Show your working.

6 2 pumps can empty a pool in 9 hours.

All the pumps work at the same rate.

(a) How long would it take 3 pumps?

(b) How many pumps are needed to empty the pool in 2 hours?

Mr&Mrs MATHS

ANSWERS · REVISION MAT 2

Direct and inverse proportion

1 One costs £2.60 ÷ 4 = £0.65

10 cost **£6.50**

2 450 ÷ 6 × 8 = **600 g**

3 More builders means **less** time (inverse proportion).

3 × 10 = 30 builder-days

30 ÷ 6 = **5 days**

4 12 ÷ 3 = 4 , 24 ÷ 6 = 4 , 38 ÷ 10 = 3.8

No, $y \div x$ is not always the same.

5 $80 ÷ 1.25 = £64.00

New York is cheaper.

6 Total: 2 × 9 = 18 pump-hours

(a) 18 ÷ 3 = **6 hours**

(b) 18 ÷ 2 = **9 pumps**