GCSE FOUNDATION · REVISION MAT 1

Direct and inverse proportion

1 5 pens cost £3.40.

Work out the cost of 8 pens.

2 A recipe for 4 people uses 300 g of flour.

How much flour is needed for 10 people?

3 It takes 4 builders 6 days to build a wall.

Ali says it will take 8 builders 12 days.

Explain why Ali is wrong.

4 Here are some values of x and y.

x	2	5	8
y	7	17.5	28

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

5 £1 = $1.27

A pair of jeans costs $45 in New York and £37 in London.

In which city is it cheaper? Show your working.

6 3 pumps can empty a pool in 8 hours.

All the pumps work at the same rate.

(a) How long would it take 4 pumps?

(b) How many pumps are needed to empty the pool in 4 hours?

Mr&Mrs MATHS

ANSWERS · REVISION MAT 1

Direct and inverse proportion

1 One costs £3.40 ÷ 5 = £0.68

8 cost **£5.44**

2 300 ÷ 4 × 10 = **750 g**

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

4 × 6 = 24 builder-days

24 ÷ 8 = **3 days**

4 7 ÷ 2 = 3.5 , 17.5 ÷ 5 = 3.5 , 28 ÷ 8 = 3.5

Yes, $y \div x$ is always the same.

5 $45 ÷ 1.27 = £35.43

New York is cheaper.

6 Total: 3 × 8 = 24 pump-hours

(a) 24 ÷ 4 = **6 hours**

(b) 24 ÷ 4 = **6 pumps**