

## Topic Check In - 1.04 Inverse operations

Fill in the missing values.

1.  $471 - 97 = 471 + \square - 100 = \square$

2.  $34 \times 12 = \square \times 6 = \square \times 3 = \square$

Use the fact that  $140 \times 4 = 560$  to determine the following.

3.  $560 \div 4$

4.  $560 \div 8$

5. Hamish thinks of a number. If he halves it and then halves it again the answer is 20. What was the original number?

6. Ruth is thinking of a number. If she multiplies it by 5 and then adds 3 the answer will be 58. Describe how you could work out what number she is thinking of.

7. What are the missing digits in the following calculation?  $3 \square \times \square = \square 70$

8. Given that  $32^2 = 1024$ , find  $7 + \sqrt{1024}$ .

9. Amy and Brian play football. If Amy scored 4 more goals than Brian and they scored 22 goals in total, find the number of goals scored by Amy.

10. It costs £10 to hire a bicycle plus £2 for every hour. If it cost Darren £18 to hire a bike, how many hours did he hire it for?

### Extension

How many different ways can you find to use four different single digit numbers, and any mathematical operations  $[+, -, \times, \div]$  and brackets  $( )$  to make the answer 14?



# GCSE (9-1) MATHEMATICS

## Answers

1.  $471 + 3 - 100 = 374$
2.  $68 \times 6 = 136 \times 3 = 408$
3. 140
4. 70
5. 80
6. You need to subtract 3 from 58 and then divide by 5
7.  $34 \times 5 = 170$
8. 39 [note -25 is also a correct answer]
9. 13
10. 4

## Extension

Possible examples:

$$1 \times 2 + 3 \times 4$$
$$4 \times 2 + 5 + 1$$
$$1 \times 2 \times (3 + 4)$$


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Assessment Objective	Qu.	Topic	R	A	G
AO1	1	Use mental methods of subtraction			
AO1	2	Use mental methods of multiplication			
AO1	3	Know that multiplication and division are opposite functions			
AO1	4	Apply associated number facts			
AO1	5	Use inverse function to solve a problem			
AO2	6	Deduce solution by applying inverse functions			
AO2	7	Use properties of multiples and factors to construct chains of reasoning to solve a problem			
AO2	8	Draw a conclusion from mathematical information			
AO3	9	Solve a word problem using opposite operations			
AO3	10	Use BIDMAS rules in the correct opposite order to find a solution			

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