

## Topic Check In - 1.01 Calculations with integers

Do not use a calculator.

Calculate the following, showing all your working.

1.  $78 + 29$
2.  $304 - 78$
3.  $34 \times 69$
4.  $204 \div 12$
5.  $7 - 9 - 21 + 15$
6. Mary writes the following in her exercise book.

$$-8 \times -3 = -24$$

Her answer is incorrect. Explain how you know that she has made a mistake.

7. Explain why  $240 \div 20$  is the same as  $24 \div 2$ .
8. Steven is attempting the following calculation.

$$1148 \div 14$$

His incorrect solution is shown below.

Line 1	532
Line 2	$14 \overline{)1148}$
Line 3	$14 \times 50 = 700$
Line 4	$14 \times 30 = 420$
Line 5	$14 \times 2 = 28$

What is the correct answer? Explain the mistake Steven has made.

9. Amanda is using these numbers to make a new number.

1                      -2                      4                      -8

- She can only use the + and – operations.
- She cannot use any number more than once.
- She cannot use multiplication, division or powers.
- She cannot put numbers together, e.g. she can't use 48.

What is the largest number that she can make?

10. The £2 coin has a mass of 12 g.  
What is the value of 3 kg of £2 coins?

**Remember: 1 kg = 1000 g**



# GCSE (9–1) MATHEMATICS

## Extension

Given that  $78 \times 30 = 2340$ , explain how you could easily find  $78 \times 29$ .

State some other calculations that you could determine easily from the original statement.



# GCSE (9-1) MATHEMATICS

## Answers

- 107
- 226
- 2346
- 17
- 8
- Negative multiplied by negative gives positive
- Because the two divisions form equivalent fractions
82. He should have added 50 and 30
- $15 = 1 - -2 + 4 - -8$
- $3000 \div 12 = 250$   
 $250 \times 2 = \text{£}500$

## Extension

$$78 \times 29 = 78 \times (30 - 1) = 78 \times 30 - 78 \times 1 = 2340 - 78 = 2262$$

Other calculations that could be solved readily include  $78 \times 31$ ,  $78 \times 60$ ,  $7.8 \times 2.9$ , etc



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Assessment Objective	Qu.	Topic	R	A	G
AO1	1	Add whole numbers (integers)			
AO1	2	Subtract integers			
AO1	3	Multiply integers			
AO1	4	Divide integers			
AO1	5	Add directed numbers			
AO2	6	Explain rules for multiplication of directed numbers			
AO2	7	Explain rules of division			
AO2	8	Use multiplication facts to solve a division problem			
AO3	9	Apply rules for subtraction of negative numbers			
AO3	10	Solve a problem using multiplication and division			

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