

Foundation Check In - 1.01 Calculations with integers

Do not use a calculator.

Calculate the following.

1. $-2 + 9$
2. -3×-4
3. $3 - -7$
4. $2020 \div 4$
5. $98 - 120 + 7$
6. The temperature in Montreal is -10°C . In London it is 5°C . Harry says that the difference between these two temperatures is 5°C . Is he correct? Explain your answer.
7. Robbie drives the same number of miles every day for 5 days. His total mileage for these 5 days is 615. Show that Robbie drives 123 miles each day.
8. The reading from a gas meter in January is 21 537 units and the reading from the same meter in April is 22 887 units. If the cost of each unit of gas is 12p, explain how you would calculate the cost of the gas used between January and April.
9. Kelly and Alan have 4 children and all the children are different ages. The youngest child is 3 years old. The sum of their ages is 24 years and the difference between the oldest and youngest is 9 years. What are the ages of the three older children?
10. A joiner uses the following formula to calculate the price of a job.

$$P = 2d + 22h$$

P is the price of the job in pounds
 d is the distance in miles to travel to the job
 h is the number of hours worked

The joiner travels 10 miles to a job and the price of the job is £75. Calculate the number of hours it took to complete the job.

Extension

You may use a calculator.

Arrange the digits 1, 3, 5, 7 and 9 into numbers containing two or three digits. You must use each digit once.

- (a) Which arrangement gives the greatest sum?
- (b) Which arrangement gives the greatest product?

GCSE (9–1)

MATHEMATICS

Answers

1. 7
2. 12
3. 10
4. 505
5. -15
6. No, he is not correct as $5 - -10 = 15^{\circ}\text{C}$
7. $615 \div 5 = 123$
8. Amount of gas used = $22\,887 - 21\,537 = 1350$ units
Cost of gas = $1350 \times 12\text{ p} (= 16\,200\text{ p} = \text{£}162)$
9. 4, 5 and 12
10. 2.5 hours

Extension

- (a) 1024 e.g. $971 + 53$
(b) $69\,843 = 751 \times 93$

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Assessment Objective	Qu.	Topic	R	A	G
AO1	1	Add integers			
AO1	2	Multiply integers			
AO1	3	Subtract integers			
AO1	4	Divide integers			
AO1	5	Add and subtract integers			
AO2	6	Explain how to calculate the difference between a positive integer and a negative integer			
AO2	7	Divide integers			
AO2	8	Explain how to calculate a cost by subtracting and multiplying positive integers			
AO3	9	Solve a problem in context			
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