# 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 ÷ 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* 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?

Answers

1. 7
2. 12
3. 10
4. 505
5. -15
6. No, he is not correct as 5 – -10 = 15°C
7. 615 ÷ 5 = 123
8. Amount of gas used = 22 887 – 21 537 = 1350 units

Cost of gas = 1350 × 12 p (= 16 200 p = £162)

1. 4, 5 and 12
2. 2.5 hours

**Extension**

(a) 1024 e.g. 971 + 53

(b) 69 843 = 751 × 93

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| **Assessment Objective** | **Qu.** | **Topic** | **R** | **A** | **G** |  | **Assessment Objective** | **Qu.** | **Topic** | **R** | **A** | **G** |
| AO1 | 1 | Add integers |  |  |  |  | AO1 | 1 | Add integers |  |  |  |
| AO1 | 2 | Multiply integers |  |  |  |  | AO1 | 2 | Multiply integers |  |  |  |
| AO1 | 3 | Subtract integers |  |  |  |  | AO1 | 3 | Subtract integers |  |  |  |
| AO1 | 4 | Divide integers |  |  |  |  | AO1 | 4 | Divide integers |  |  |  |
| AO1 | 5 | Add and subtract integers |  |  |  |  | AO1 | 5 | Add and subtract integers |  |  |  |
| AO2 | 6 | Explain how to calculate the difference between a positive integer and a negative integer |  |  |  |  | AO2 | 6 | Explain how to calculate the difference between a positive integer and a negative integer |  |  |  |
| AO2 | 7 | Divide integers |  |  |  |  | AO2 | 7 | Divide integers |  |  |  |
| AO2 | 8 | Explain how to calculate a cost by subtracting and multiplying positive integers |  |  |  |  | AO2 | 8 | Explain how to calculate a cost by subtracting and multiplying positive integers |  |  |  |
| AO3 | 9 | Solve a problem in context |  |  |  |  | AO3 | 9 | Solve a problem in context |  |  |  |
| AO3 | 10 | Solve a problem by calculating with integers |  |  |  |  | AO3 | 10 | Solve a problem by calculating with integers |  |  |  |
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| AO1 | 4 | Divide integers |  |  |  |  | AO1 | 4 | Divide integers |  |  |  |
| AO1 | 5 | Add and subtract integers |  |  |  |  | AO1 | 5 | Add and subtract integers |  |  |  |
| AO2 | 6 | Explain how to calculate the difference between a positive integer and a negative integer |  |  |  |  | AO2 | 6 | Explain how to calculate the difference between a positive integer and a negative integer |  |  |  |
| AO2 | 7 | Divide integers |  |  |  |  | AO2 | 7 | Divide integers |  |  |  |
| AO2 | 8 | Explain how to calculate a cost by subtracting and multiplying positive integers |  |  |  |  | AO2 | 8 | Explain how to calculate a cost by subtracting and multiplying positive integers |  |  |  |
| AO3 | 9 | Solve a problem in context |  |  |  |  | AO3 | 9 | Solve a problem in context |  |  |  |
| AO3 | 10 | Solve a problem by calculating with integers |  |  |  |  | AO3 | 10 | Solve a problem by calculating with integers |  |  |  |