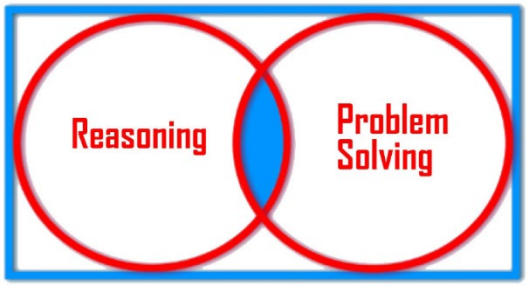
# GCSE Foundation (5 – 1)

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## Mathematical Reasoning Questions

## (Integers and Place Value) – Set 1

## Solutions

**The questions are repeated here for your convenience**

| | |
|---|---|
| **1** | Kyra is carrying out the following calculations.<br>Some of Kyra's digits are missing. Help her find them.<br>a)<br>$\begin{array}{r} 5\ 8\ \boxed{8} \\ 2\ \boxed{8}\ 6 \\ \hline 8\ 7\ 4 \end{array}$<br>**[1mark]**<br>b)<br>$\begin{array}{r} 5\ 6 \\ 7\ \boxed{8} \\ 1\ 5 \\ \hline \boxed{1}\ \boxed{4}\ 9 \end{array}$<br>**[2marks]** |
| **2** | Which calculation below is equal to One million, One hundred and Ten thousand, one hundred and one?<br>a) $1000000 + 11100 + 10 + 1$<br>b) $1000000 + 110000 + 100 + 10 + 1$<br>c) $1000000 + 1100 + 110 + 1$<br>d) $1000000 + 110000 + 100 + 1$<br><br>Correct Answer: D<br>**[1mark]** |
| **3** | Which answer below is closest to the calculation<br>$(2020 - 2019) \times (2018 - 2019)$<br>a) $1$<br>b) $9$<br>c) $-8$<br>d) $11$<br>Correct Answer: A **[1mark]** |
| **4** | Put a ring around the number closest to zero from the options below<br>a) $-111$<br>b) $-110$<br>c) $-101$<br>d) $-1101$<br>Correct Answer: C **[1mark]** |

| | |
|---|---|
| **5** | Jessica is performing the following calculation<br>$16 \times 5 - 8$<br>**Jessica's Answer**<br>$16 \times 5 = 80$<br>$80 - 8 = 72$<br>Use a different calculation to show that Jessica's answer is correct<br>**Solution**<br>Any one of<br>$72 + 8 \div 5 = 16$ **[1mark]**<br>$72 + 8 \div 16 = 5$<br>$72 + 8 = 16 \times 5$ |
| **6** | Write a number in the box so that<br>**Solution**<br>$10 \times -20 \times 30 \times 40 = 100 \times 200 \times \square$<br>$-240000 = 20000 \times \boxed{-12}$<br>**[2marks]** |
| **7** | The sum of the first 100 positive integers is 5050.<br>Circle the number, that is the sum of the first 100 odd positive integers?<br>**Solution**<br>$1 + 3 + 5 + 7 + \cdots + 199$<br>$199 + 197 + 195 + 193 + \cdots + 1$<br>$200 + 200 + 200 + 200 + \cdots + 200$<br>**[1mark]**<br>So we will have $200 \times 100 = 20000 \div 2 = 10000$<br>**[1mark]**<br>Correct Answer: D |

**8** Find the two calculations which have the same answer

a) $6 + 5 - 12 = -1$

b) $(-8 + 20) + (2 \times 1) = 14$

c) $(2 \times -1) + (4 \div 4) - (3 \times 0) = -1$

Correct Answers: A and C **[3marks]**

**9** Choose the answer which is 10 more than the answer to the calculation $(6 - 8) + 5(-7 + (4 + 3))$

a) $11$

b) $8$

c) $20$

d) $-10$

**Solution**

$(6 - 8) + 5(-7 + (4 + 3))$

$= -2 + 5(-7 + 7)$ **[1mark]**

$= -2 + 5(0) = -2$ **[1mark]**

$10$ more than $-2$ will be $-2 + 10 = 8$ **[1mark]**

Correct Answer: B

**10** Given that $24 \times 7 + 15 = 183$

Write down the answers for the following calculations below

a) $240 \times 7 + 13$

b) $24 \times 70 + 25$

**Solution**

$24 \times 7 = 183 - 15$

$24 \times 7 = 168$

Therefore, $240 \times 7 = 1680$

Hence, we will have

a) $240 \times 7 + 13 = 1680 + 13 = 1693$ **[2marks]**

b) $24 \times 70 + 25 = 1680 + 25 = 1705$ **[2marks]**