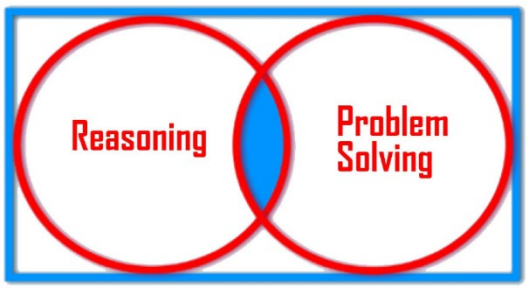
GCSE Foundation (5 – 1)



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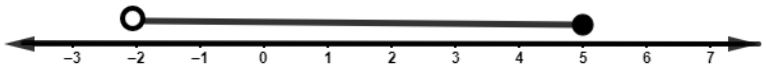
Mathematical Reasoning Questions

(Inequalities) – Set 1

The marks shown are for guidance purposes only
[Total marks: 25 Marks]

1	Here is a set of numbers $\{-4, -3, -2, -1, 0, 1, 2, 3, 4, 5, 6\}$ How many members of the set will satisfy the inequality $-7 \leq 2x \leq 4$. Where x is and integer. **[2Marks]**
2	Which inequality is represented on the number line below?  Choose one answer a) $-4 \leq 2x \leq 10$ b) $-2 \leq 2x \leq 5$ c) $-4 < 2x < 10$ d) $-4 < 2x \leq 10$ **[2Marks]**
3	Given that $-5 < x \leq 2$ and $y < 10$ List all the numbers which could represent both x and y **[2Marks]**

4	Answer **True** or **False** to the following statements a) If $-6 \leq \frac{x}{2} \leq 1$, then x must be greater than -12 but less than 1 b) If $x > 7$ and $y < -1$, then x and y do not have a common value c) If $-2x \leq 12$, then x must be less than -6 **[3Marks]**
5	Choose all the integers which do **not** satisfy the inequality $-5 < x + 3 \leq 6$ a) -9 b) 7 c) -8 d) 3 **[2Marks]**
6	If $-2 \leq x \leq 1$ and $y < -1$, what is the maximum value of $x + y$? Choose one answer a) 1 b) -2 c) -1 d) 2 **[2Marks]**

7	Choose all the numbers which obey the inequality $6a + 5 \geq 4a - 15$ a) -11 b) -8 c) -12 d) -9 **[2Marks]**
8	Find the largest and smallest integers which satisfy the inequality $-18 \leq 4x + 5 \leq 60$ **[4Marks]**

9

If $y = 2$ and $2y < 15 - 2x$

Which of the following is the least integer value of x

a) -5.5

b) 5

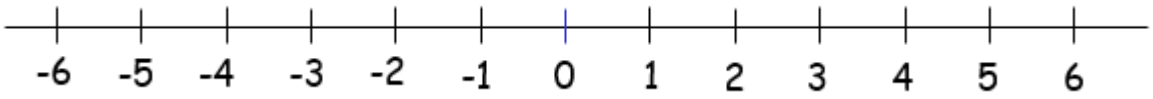
c) -5

d) 5.5

[2Marks]

10

Use the number line below to show all the acceptable values of the inequality $2x^2 \geq 50$



[4Marks]