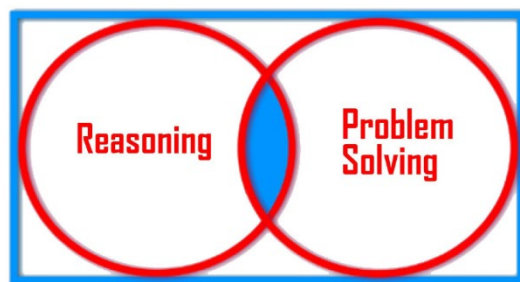


GCSE Foundation (5 – 1)



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Mathematical Reasoning Questions

(Decimals, Rounding and Estimation) – Set 1

**The marks shown are for guidance purposes only
[Total marks: 26 Marks]**

1	<p>When $\frac{2}{3}$ is rounded to 3 decimal places, what digit will be in third decimal place? Choose one answer</p> <p>a) 6 b) 3 c) 2 d) 7</p> <p style="text-align: right;">[1Mark]</p>
2	<p>Which calculation below will give an answer of 1.011 Choose all the correct answers</p> <p>a) $1.0 + 0.01 + 0.0011$ b) $1.0 + 0.01 + 0.001$ c) $0.01 \times 1 + 1 + 0.001$ d) $1.00 + 0.1 + 0.011$</p> <p style="text-align: right;">[2Marks]</p>
3	<p>Arrange the following numbers in order of size. Start with the smallest</p> <p style="text-align: center;">$3.2,$ $\sqrt{6},$ $2.05,$ $\sqrt{25},$ $\frac{7}{8}$</p> <p style="text-align: right;">[3Marks]</p>

4	<p>Use the signs =, >, < to make the following statements correct</p> <p>a) 0.5^2 <input type="checkbox"/> 2.5</p> <p>b) 1.45 <input type="checkbox"/> 145%</p> <p>c) $\frac{1}{3}$ <input type="checkbox"/> 0.3</p> <p>d) $0.3 + 0.65$ <input type="checkbox"/> 0.3×0.65</p> <p style="text-align: right;">[5Marks]</p>
5	<p>Which of the following will give a better estimate for the calculation below?</p> <p style="text-align: center;">48% of 0.7165 kg</p> <p>a) 40% of 0.7 kg</p> <p>b) 50% of 1 kg</p> <p>c) 50% of 0.7 kg</p> <p>d) 50% of 0.8 kg</p> <p style="text-align: right;">[1Mark]</p>
6	<p>A lift is designed to take a maximum weight of 450kg. The mean weight of 6 people in the lift is 69.85kg. Estimate the maximum weight of a 7th person in order not to overload the lift.</p> <p style="text-align: right;">[3Marks]</p>

7	<p>The estimated cost to restore a medieval relic is £37.83 per cm² Two of the relics have a total area of 57 cm² Estimate the cost of restoring both relics.</p> <p style="text-align: right;">[3Marks]</p>
8	<p>Answer True or False to the following statements</p> <p>a) $\frac{1}{3} = 0.3$ (1dp)</p> <p>b) $0.9876 = 1.0$ (1dp)</p> <p>c) $\frac{2}{3} > 0.678$</p> <p>d) $13.5\% < \frac{1}{4}$ of 50%</p> <p style="text-align: right;">[4Marks]</p>

9 Decide whether each calculation below is an underestimate or an overestimate

a) The length of a football pitch \approx 1000 m

b) $\frac{58.5 \times 2.991}{4.545} \approx \frac{60 \times 2}{5} \approx 24$

c) 37.5% of $\frac{1}{5}$ of 57 kg \approx 40% of 20% of 60 kg

[3Marks]

10 The fraction $\frac{104}{333} = 0.\dot{3}1\dot{2}$
If the decimal had 24 digits, how many times will it repeat?

[1Mark]