**The City School**

**E-worksheet**

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Q1. The force acting on an object during a collision is given by the formula: F = $\frac{mv - mu}{t}$

1. Given that m = 4, v = 5, u = 3 and t = 0.01, find the value of F.
2. Rearrange the formula to make m the subject.

Q2. Simplify the following

i)$\frac{(2x^{3}y)^{3}}{(4xy^{2})^{2}(xy^{3})}$

ii) $\frac{10xy^{4}}{30x^{2}y^{2}z^{3}}$

Q3. Evaluate the following:

1. Given that x = 2 $×$ 10 -3 and y = 7 $×$ 10-4, evaluate x + 8y, and evaluate your answer in the standard form.
2. Evaluate 78 microseconds + 512 nanoseconds in standard form in seconds.
3. Evaluate (6.3 ×106 ) ÷ (9 × 102 ), giving your answer in standard form.

Q4. Solve the following inequalities, illustrating each solution by a number line.

1. x + 3 > 4

 ii) $\frac{x + 1}{4}$ - $\frac{1}{12} $ < $\frac{x}{3}$

Q5.

1. Calculate 5% of $ 280000.
2. Convert 0.8 kilometres into millimetres
3. Express the ratio 15 minutes: 2 hours as a single fraction in its lowest terms.