LIMITS OF ACCURACY

WORKSHEET 1

1. The following numbers are expressed to the nearest whole number. Illustrate on a number line the range in which each must lie.
    a) 7
    b) 40
    c) 0
    d) −200

2. The following numbers are expressed correct to two significant figures. Representing each number by the letter x, express the range in which each must lie, using an inequality.
    a) 210
    b) 64
    c) 3.0
    d) 0.88

3. A school measures the dimensions of its rectangular playing field to the nearest metre. The length was recorded as 350 m and the width as 200 m. Express the range in which the length and width lie using inequalities.

4. A boy's mass was measured to the nearest 0.1 kg. If his mass was recorded as 58.9 kg, illustrate on a number line the range within which it must lie.

5. An electronic clock is accurate to $\frac{1}{1000}$ of a second. The duration of a flash from a camera is timed at 0.004 seconds. Express the upper and lower bounds of the duration of the flash using inequalities.

6. The following numbers are rounded to the degree of accuracy shown in brackets. Express the lower and upper bounds of these numbers as an inequality.
    a) $x = 4.83$ (2 d.p.)
    b) $y = 5.05$ (2 d.p.)
    c) $z = 10.0$ (1 d.p.)
    d) $p = -100.00$ (2 d.p.)