Lesson 2

GCSE : Algebra of Inequalities

2.1 Equations & Inequalities Practice

Do NOT use a calculator

Question 1

Solve the following equations;

(i) $x + 0.5 = 5.7$

(ii) $x - 2.4 = 4.1$

(iii) $0.2x = 20$

(iv) $3x + 0.8 = 6.8$

(v) $40x - 7 = 393$

(vi) $8x + 3 = 67$

(vii) $20 (x + 4) = 100$

(viii) $12x = 36$

(ix) $- 5x = 65$

(x) $x + 2.6 = - 3.5$

(xi) $2x + 2.6 = 5.6$

(xii) $2.4 + 3x = 8.7$

Question 2

Study the following example;

EXAMPLE	MEANING
$7 < x < 11$	x is more than 7 and less than 11

List all of the following which ***could be*** the value of x in the above example;

-2 0 3 7 9 10 11 12

Question 3

For each of the following state if the given inequality is TRUE or FALSE.

(i) 10p < £1 < 150p

(ii) £0.40 < 50p < £0.30

(iii) 1mm < 1cm < 1m

(iv) 0.04m < 40m < 40cm

(v) 3km < 300m < 3cm

(vi) $\frac{1}{4} < \frac{1}{3} < \frac{1}{2}$

Question 4

I am about to roll two standard six sided dice and add together the spots showing.
Which of the following is ***always true*** about the number of spots showing ?

4 < spots ⩽ 7

2 ⩽ spots ⩽ 12

2 ⩽ spots < 12

0 ⩽ spots ⩽ 5

Question 5

In my wallet I have exactly 4 coins.
Which of the following is ***definitely true*** about the amount of money in my wallet ?

5p < money < £1

4p < money ⩽ £2

4p ⩽ money ⩽ £8

0p ⩽ money < £3

Question 6

You can solving the following simple inequalities as if they are equations with an equals sign in the place of the inequality symbol.

Be sure to have an inequality sign in your answer.

(i) $4x < 28$

(ii) $x + 0.5 \geqslant 7.2$

(iii) $2x - 0.9 \leqslant 7.1$

(iv) $0.5x + 150 > 160$

(v) $6x + 38 \leqslant 32$

(vi) $1.3x + 1.3 < 3.9$

(vii) $6 (x + 2) < 42$

(viii) $3 (x + 2) + 4 (x + 3) \leqslant 53$

(ix) $4 (2x + 1) \leqslant 24$

(x) $2 (5x + 1) + 3 (x + 8) < 65$