

## EXERCISES – Equations & Inequations

### (1) Sample Exercises: Solving Equations

(a)  $\frac{3x-1}{4} + 6 = 11$

(b)  $3x+11 = 5-2x$

(c)  $\frac{x+1}{2} - \frac{2x-1}{5} = 7$

(d)  $\frac{5}{3x} - \frac{3}{2x} = 2$

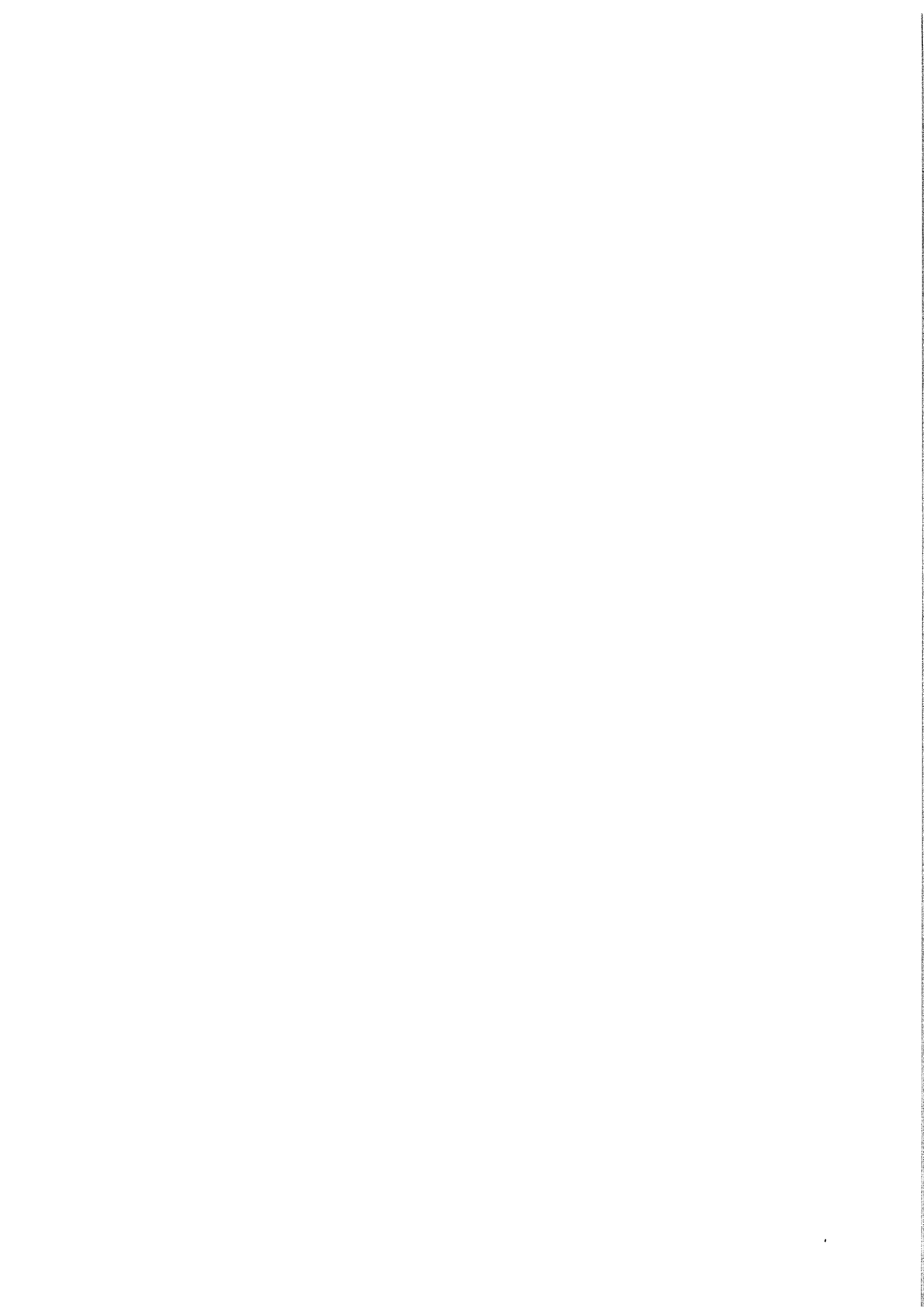
(e)  $\frac{5}{x+1} - \frac{4}{x} = \frac{1}{x^2-1}$

### (2) Sample Exercises: Solving Inequalities

(a)  $7-x \geq 5-2x$

(b)  $x^2 > 6x$

(c)  $3 \geq \frac{6}{x-2}$



$$(d) \sqrt{x-3} < 2$$

$$(e) x^2 \leq x+6$$

$$(f) -3 < \frac{x+2}{4} < 1$$

$$(g) \frac{10-x}{x} \geq 4$$

$$(h) \frac{5}{x} > \frac{3}{x-1}$$

### ANSWERS: Week 2 – Tutorial (1)

Quest 1.

$$(a) x = 7$$

$$(b) x = -1.2$$

$$(c) x = 63$$

$$(d) x = \frac{1}{12}$$

$$(e) x = 3 \pm \sqrt{5}$$

Quest 2.

$$(a) x \geq -2$$

$$(b) x < 0 \text{ or } x > 6$$

$$(c) x < 2 \text{ or } x \geq 4$$

$$(d) 3 \leq x < 7$$

$$(e) -2 \leq x \leq 3$$

$$(f) -14 < x < 2$$

$$(g) 0 < x \leq 2$$

$$(h) 0 < x < 1 \text{ or } x > 2.5$$

