

## Q2 Review Sheet 1

1

$$1898-1971 : \frac{6-1}{1971-1898} = 0.068$$

$$1971-1985 : \frac{14-6}{1985-1971} = 0.57$$

(4)

$$1985-2006 : \frac{24-14}{2006-1985} = 0.48$$

$$2006-2012 : \frac{35-24}{2012-2006} = 1.83$$

2

$$(3) \{x \mid -2 \leq x < 2\}$$

$\uparrow$                        $\uparrow$   
 closed                  open  
 circle                    circle

3

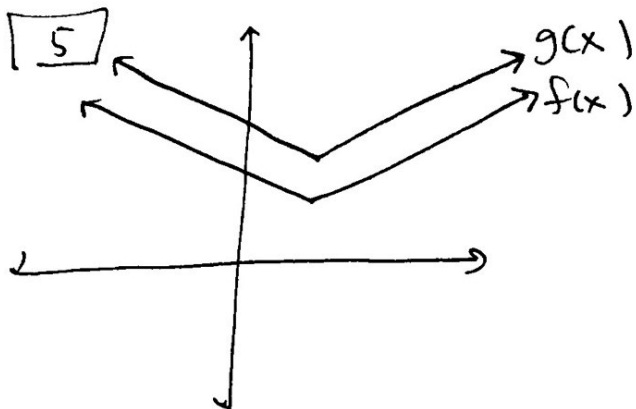
(4) <u>original</u>	<u>Answer</u>
$x + 2y = 5$	$x + 2y = 5$
$2x + y = 4$	$4x + 2y = 12$
$\times 2$	$\times 3$

Q2 Review Sheet 1

4

$$(1) \quad y = f(x+7) - 3$$

$\uparrow$                        $\uparrow$   
 left 7              down 3



- I. False. Minimum of  $f(x)$  is 3 but minimum of  $g(x)$  is 5.
- II. False. Both have the same maximum of infinity ( $\infty$ ).
- III. True.  $f(x)$  is always less than  $g(x)$  for any given value of  $x$ . In the graph,  $f(x)$  is always below  $g(x)$ .
- IV. True. Because  $f(x) < g(x)$  for every value of  $x$ , they are never equal.
- V. True. They share the domain  $-\infty < x < \infty$ .
- VI. False, the range of  $f(x)$  is  $3 \leq y < \infty$  but the range of  $g(x)$  is  $5 \leq y < \infty$ .

## Q2 Review sheet 1

11  $y = 4 + x$   
 $2x - 2y = 10$

So...

$$2x - 2(4 + x) = 10$$

$$2x - 8 - 2x = 10$$

$$-8 = 10$$

Because this isn't true, there are no solutions.

check

$y = 4 + x$  has a y-intercept of 4 and a slope of 1.

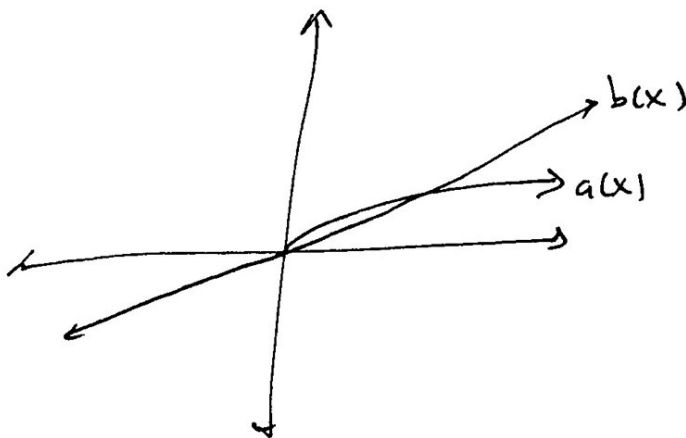
$$2x - 2y = 10$$

$$-2y = 10 - 2x$$

$y = x - 5$  has a y-intercept of -5 and a slope of 1.

So... they are parallel and thus lack any shared solutions.

12 (sketch)



Solutions

$$x = 0$$

$$x = 4$$

These are where the graphs intersect, and the solutions are the x-values.

\* You must label each graph for full credit.

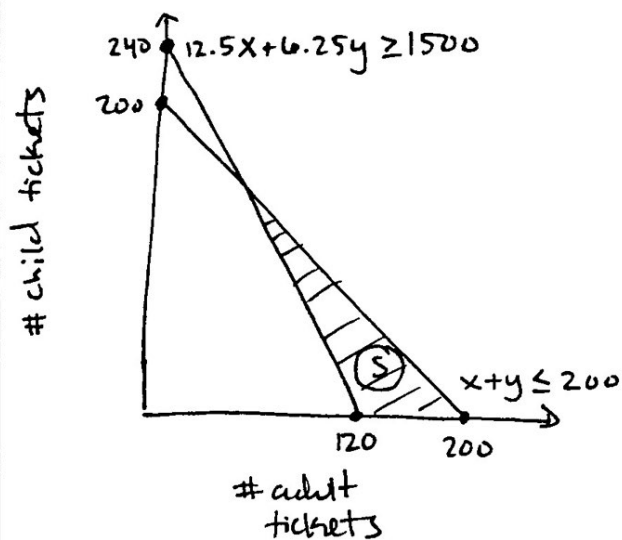
# Q2 Review Sheet 1

13

$$x + y \leq 200$$

$$12.5x + 6.25y \geq 1500$$

(Sketch)



She is incorrect because the point  $(30, 80)$  is not located within the solution set,  $S$ , of the graph.