SOLVING NEGATIVE LINEAR INEQUALITIES

Answer all of these questions. Remember to show your working out in all questions.

MAIN QUESTIONS

1.	$-2x > 4$	$x < -2$	2.	$-3x \leq 9$	$x \geq -3$
3.	$-5x + 1 > 11$	$x < -2$	4.	$-4x - 3 \leq 5$	$x \geq -2$
5.	$-7x + 2 \geq -12$	$x \leq 2$	6.	$-x/2 < 3$	$x > -6$
7.	$-3x/4 \geq 6$	$x \leq -8$	8.	$-2x + 5 > -3x + 2$	$x > -3$
9.	$-4x - 7 \leq -2x + 1$	$x \geq -4$	10.	$-5(x + 2) > 10$	$x < -4$
11.	$-3(2x - 1) \leq -9$	$x \geq 2$	12.	$-2x/3 + 4 < -2$	$x > 9$
13.	$-5x/2 - 1 \geq -6$	$x \leq 2$	14.	$-3(x - 4) > -2(x + 1)$	$x < 14$
15.	$-4(2x + 3) \leq -5(x - 2)$	$x \geq -22/3$	16.	$-x + 3 > -2x - 5$	$x > -8$

MASTER QUESTIONS

M1. A student scores 72% in a test. The teacher decides to deduct 5% for each day the assignment is late. If the student submits the assignment x days late, write an inequality to represent the score being above 50%.

$72 - 5x > 50$

M2. A mobile phone plan costs £20 per month plus £0.10 per minute of call time. If a customer wants to spend no more than £30 per month, write an inequality to represent this situation.

$20 + 0.10x \leq 30$

M3. A car rental company charges £40 per day plus £0.15 per mile driven. If a customer has a budget of £100 for a day, write an inequality to represent the possible miles driven.

$40 + 0.15x \leq 100$

M4. A shop offers a discount of £5 for every £50 spent. If a customer wants to pay no more than £200 after discounts, write an inequality to represent the maximum amount they can spend before discounts.

$x - 5(x/50) \leq 200$