Name:	Teacher Assessment		Topic 24 - F Inequalities

Section A   Solving Linear Inequalities   Grade C

1. Solve the inequality $3x + 8 < 29$

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Answer ....

(Total 2 marks)

2. Solve $3x + 7 < 1$

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Answer ....

(Total 2 marks)

3. Solve the inequality $7y < 3y + 6$

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Answer ………………………………….

(Total 2 marks)

4. Solve the inequality $5x + 3 > 10$

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Answer ....

(Total 2 marks)

5. Solve the inequality $3x + 7 \geq 4$

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Answer ....

(Total 2 marks)

6. (a) Solve the inequality $3x + 7 \geq 13$

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Answer ....

(2)

(b) A mathematics teacher says

I am thinking of an integer.
I double the integer and add 1.
The result is **less than** –7.
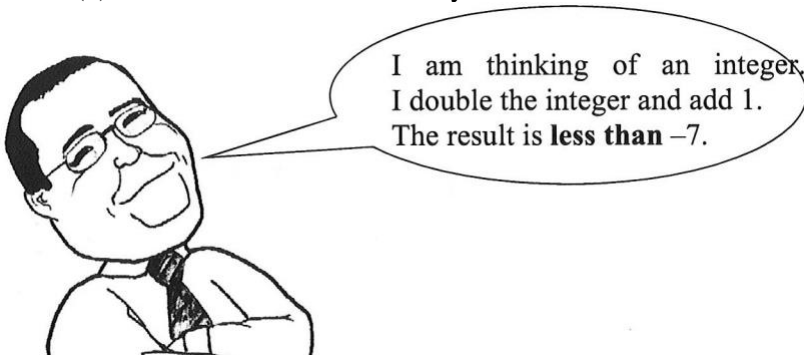
What is the **largest** integer the teacher could have thought of?

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Answer ....
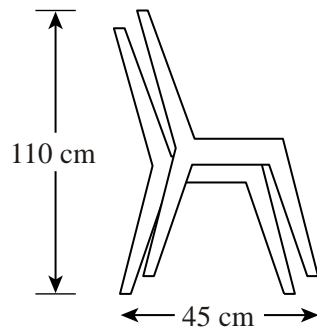
(2)
(Total 4 marks)

7. A stacking chair is 100 cm high and 40 cm wide.

Not drawn accurately

100 cm

← 40 cm →
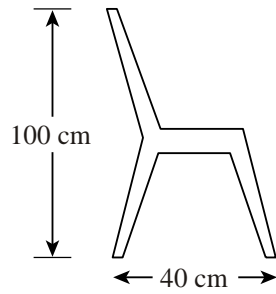
When a chair is added to a stack it increases the height by 10 cm and the width by 5 cm.

Not drawn accurately

110 cm

← 45 cm →

(a) Find an expression for the height of a stack of n chairs.

…………………………………………………………………………………….

Answer …………………………………………………………

(2)

(b) A rule for the maximum number of chairs that can be stacked before they fall over is

$$4n + 35 < 70$$

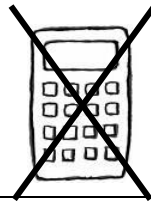What is the maximum number of chairs that can be stacked?

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Answer …………………………………………………………

(3)
(Total 5 marks)

Success:

Target:

Section B   Harder Inequalities and Number Lines   Grade D / C

1. (a) Solve the inequality $2x + 3 \geq 1$

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Answer ....

(2)

(b) Write down the inequality shown by the following diagram.
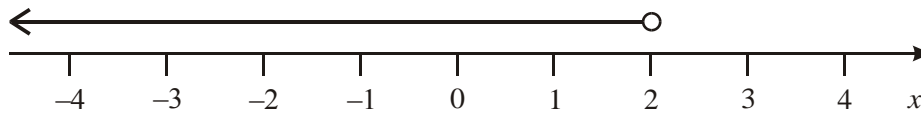
Answer ....

(1)

(c) Write down all the integers that satisfy both inequalities shown in parts (a) and (b).

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Answer ....

(1)

(Total 4 marks)

2. (a) Solve the inequality $3(x - 2) \leq 9$

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Answer ....

(3)

(b) The inequality $x \leq 3$ is shown on the number line below.
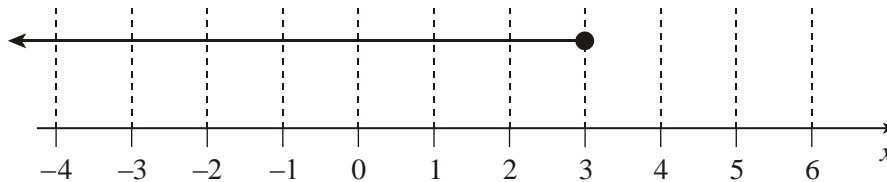
Draw another inequality on the number line so that only the following integers satisfy both inequalities

$\{-2, -1, 0, 1, 2, 3\}$

(1)

(Total 4 marks)

3.   (a)   Solve the inequality $3x + 5 \leq 16$

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Answer ....

(2)

(b)   Write down the integer value satisfied by the inequality $5 < 2x < 7$

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Answer ....

(2)
(Total 4 marks)

4. n is an integer.
List the values of n such that

$$-6 \leq 3n < 13$$

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Answer ....

(Total 3 marks)

5. (a) x is an integer.

$0 < x \le 3$

Write down all the possible values of x.

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Answer ………………………………........

(2)

(b) x and y are integers.

$0 < x \le 3$

$y < x$

$x + y < 5$

Write down **two** pairs of values of x and y which satisfy all three inequalities.

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Answer   (................., ...) and (................., ...)

(2)
(Total 4 marks)

Success:	Target: