MEMORANDUM

Name: ..... Class: .....

Date: .....

MARK ____ / 15

Answer all questions. Show all your working — marks are awarded for method as well as the final answer. **Teacher copy: accept any correct equivalent method.**

1 Solve: $2x + 3 < 11$ (2)

$2x < 8 \rightarrow \mathbf{x < 4}$, i.e. $(-\infty\ ;\ 4)$ ✓✓ (2)

2 Solve: $5x - 4 \geq 16$ (2)

$5x \geq 20 \rightarrow \mathbf{x \geq 4}$, i.e. $[4\ ;\ \infty)$ ✓✓ (2)

3 Solve: $-2x > 10$ (2)

$\mathbf{x < -5}$ (sign flips), i.e. $(-\infty\ ;\ -5)$ ✓✓ (2)

4 Solve: $-3x + 1 \leq 7$ (2)

$-3x \leq 6 \rightarrow \mathbf{x \geq -2}$, i.e. $[-2\ ;\ \infty)$ ✓✓ (2)

5 Write $x > 5$ in interval notation. (1)

$\mathbf{(5\ ;\ \infty)}$ ✓ (1)

6 Write $-2 \leq x \leq 7$ in interval notation. (1)

$\mathbf{[-2\ ;\ 7]}$ ✓ (1)

7 Write $(-\infty\ ;\ 3]$ as an inequality. (1)

$\mathbf{x \leq 3}$ ✓ (1)

8 Solve: $-4 < 2x - 2 \leq 6$ (3)

$-1 < x \leq 4 \rightarrow \mathbf{(-1\ ;\ 4]}$ ✓✓✓ (3)

9 On a number line, what does an OPEN circle mean? **(1)**



$x > 2$



$x \geq 2$

> The value is **not included** (< or >). ✓ **(1)**

TOTAL: 15 marks

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