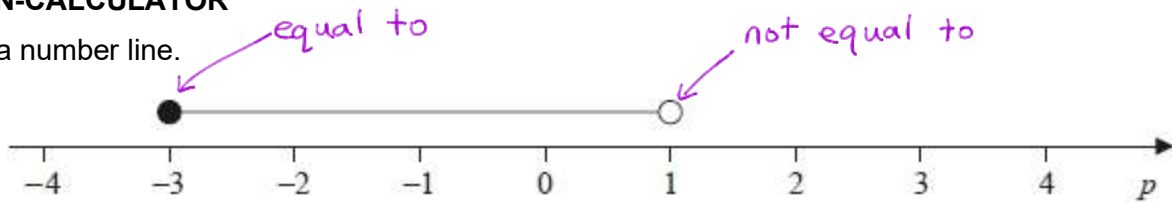


GCSE QUESTIONS WITH CLUES

Q1. NON-CALCULATOR

Here is a number line.



Write down the inequality shown on the number line.

$\leq x <$

(Total for question = 2 marks)

Q2. NON-CALCULATOR

(a) Solve $4(x - 5) = 18$

$4x - 20 = 18$

$x =$

(2)

$-3 < t \leq 2$
 t is an integer.
 whole number

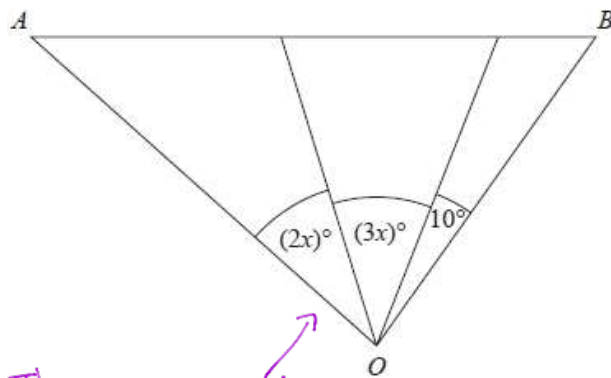
not equal to (pointing to <)
equal to (pointing to ≤)

(b) Write down all the possible values of t.

(2)
 (Total for question = 4 marks)

Q3. NON-CALCULATOR

The diagram shows triangle AOB.



Angle AOB is not an obtuse angle. So it must be either acute or a right angle. ($\leq 90^\circ$)
 Find the greatest value of x.
 You must show all your working.

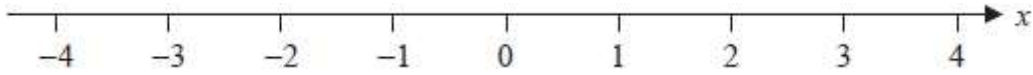
These 3 angles must add to less than an obtuse angle.

greatest value.

(Total for question = 3 marks)

Q4. CALCULATOR ALLOWED

Here is a number line.



(a) On this number line, show the inequality $-2 \leq x < 3$

(2)

(b) Solve $5n + 3 > 27$

$$-3 \quad -3$$

.....

(2)

(Total for question = 4 marks)

Q5. CALCULATOR ALLOWED

(a) Solve $14n > 11n + 6$

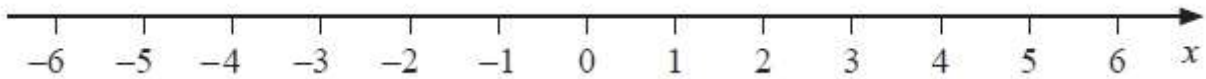
$$-11n \quad -11n$$

.....

(2)

(b) On the number line below, show the set of values of x for which $-2 < x + 3 \leq 4$

$$-3 \quad -3 \quad -3$$

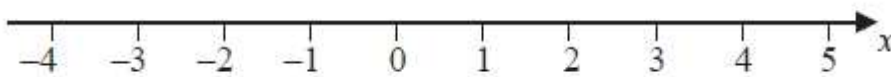


(3)

(Total for question = 5 marks)

Q6. CALCULATOR ALLOWED

(a) Show the inequality $-2 \leq x < 3$ on the number line below.



(2)

(b) Solve the inequality $4y + 7 < 16$

$$-7 \quad -7$$

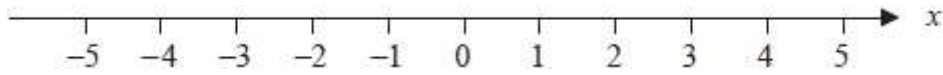
.....

(2)

(Total for question = 4 marks)

Q7. CALCULATOR ALLOWED

(a) On the number line, show the inequality $x < 4$



(2)

$3 < y \leq 7$ where y is an integer. *whole number*

(b) Write down all the possible values of y .

.....

(2)

(c) Solve $3x + 5 \geq x + 17$

$$\begin{array}{r} -x \quad -x \\ 3x + 5 \geq x + 17 \\ 2x + 5 \geq 17 \end{array}$$

.....

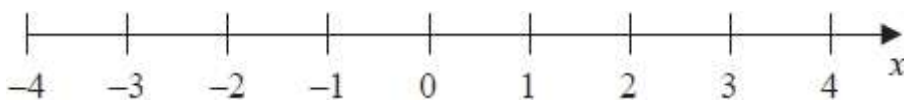
(3)

(Total for question = 7 marks)

Q8. CALCULATOR ALLOWED

(a) $x > -2$

Show this inequality on the number line.



(2)

(b) Work out the greatest integer that satisfies the inequality

$$\begin{array}{r} 4y - 1 < y + 7 \\ -y \quad -y \\ 3y - 1 < 7 \end{array}$$

greatest whole number

.....

(3)

(Total for question = 5 marks)

Q9. CALCULATOR ALLOWED

T is an integer such that $7 < T < 15$

(a) Write down the greatest number T can be.
 whole number

.....
(1)

f and g are both integers.
 whole numbers

$f + g = 500$
 f is 160 greater than g $\leftarrow f = g + 160$

(b) Calculate the value of f and the value of g .

$f = g + 160$
 ↓ substitute
 $f + g = 500$

$f =$

$g =$

(3)
 (Total for question = 4 marks)

Q10. CALCULATOR ALLOWED

(a) Factorise $y^2 + 7y + 6$ *(Double brackets)*

factors of $\frac{6}{1 \ 6}$
 $2 \ 3$

$(y \ \) (y \ \)$

(2)

(b) Solve $6x + 4 > x + 17$

$-x \quad -x$
 $5x + 4 > 17$

.....
(2)

(c) n is an integer with $-5 < 2n \leq 6$

Write down all the values of n
 whole number

$\frac{-5}{2} < \frac{2n}{2} \leq \frac{6}{2}$

.....
(2)
 (Total for question = 6 marks)

Q11. CALCULATOR ALLOWED

Solve the inequality $3 - \frac{1}{2}x > x$

$$+ \frac{1}{2}x \quad + \frac{1}{2}x$$

.....
(Total for question = 2 marks)

Q12. CALCULATOR ALLOWED

Solve $22 < \frac{m^2 + 7}{4} < 32$

Show all your working.

$$22 < \frac{m^2 + 7}{4} < 32$$

$$88 < m^2 + 7 < 128$$

.....
(Total for question = 5 marks)