

A115 Linear inequalities

Q1.

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

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

.....
(1)

f and g are both integers.

$$f + g = 500$$

f is 160 greater than g

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

$f =$

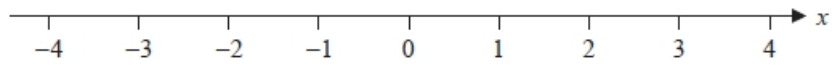
$g =$

(3)

(Total for question = 4 marks)

Q2.

Here is a number line.



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

(2)

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

.....
(2)
(Total for question = 4 marks)

Q3.

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

$x =$
(2)

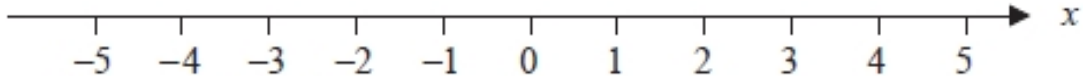
$-3 < t \leq 2$
 t is an integer.

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

.....
(2)
(Total for question = 4 marks)

Q4.

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



(2)

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

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

.....

(2)

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

.....

(3)

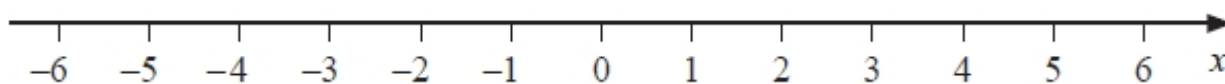
(Total for question = 7 marks)

Q5.

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

.....
(2)

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

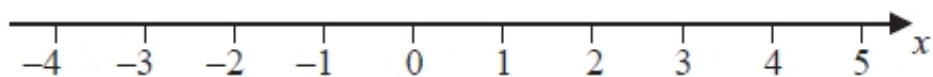


(3)

(Total for question = 5 marks)

Q6.

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



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

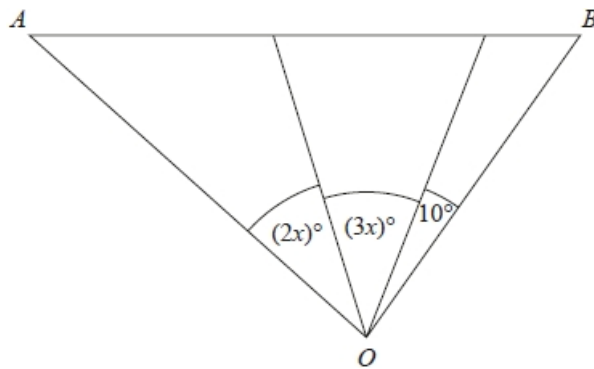
(2)

.....
(2)

(Total for question = 4 marks)

Q7.

The diagram shows triangle AOB .



Angle AOB is **not** an obtuse angle.

Find the greatest value of x .

You must show all your working.

.....
(Total for question = 3 marks)

Q8.

(i) Solve the inequalities $3 \leq x + 4 < 7$

(ii) n is an integer.

Write down all the values of n which satisfy $3 \leq n + 4 < 7$

.....
.....
(Total for question = 4 marks)

Q9.

(a) Solve the inequalities $-6 \leq 3x < 9$

(b) n is an integer.

Write down all the values of n which satisfy $-6 \leq 3n < 9$

.....
.....
(Total for question = 4 marks)

Q10.

(a) Solve the inequality $e - 2 < 0$

.....
(1)

(b) Solve the inequality $5 - 3e < 4$

.....
(2)

(c) Write down the integer value of e that satisfies both of the inequalities

$$e - 2 < 0 \quad \text{and} \quad 5 - 3e < 4$$

.....
(1)

(Total for question = 4 marks)