
A18...Solving Inequalities
Listing integers

OCR

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

$$x = \frac{\dots\dots\dots}{(2)}$$

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

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

$$\frac{\dots\dots\dots}{(2)}$$

19 (a) Solve $4(x - 5) = 18$
 $4x - 20 = 18$

$$4x = 38$$

$$x = 9.5$$

$$x = \frac{9.5}{(2)}$$

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

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

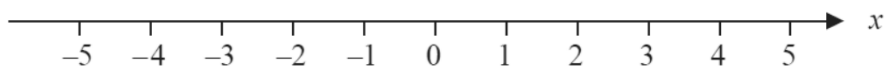
$$\frac{-2, -1, 0, 1, 2}{(2)}$$

Edexcel

Video Created by W Neill

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

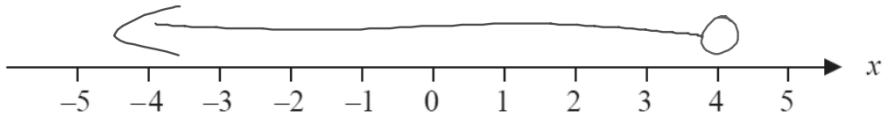
A17



(2)

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

A17



(2)

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

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

A18

.....
(2)

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

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

A18

$$3 < y \leq 7$$

4, 5, 6, 7 ✓ (2)

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

A18 Show all your working.

(Total for Question 19 is 5 marks)

19 Solve $22 < \frac{m^2 + 7}{4} < 32$
 A18

Show all your working.

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

$$m^2 + 7 < 128$$

$$m^2 < 121$$

$$m < \pm 11$$

$$m^2 = 121 \quad m = 11 \quad m = -11$$

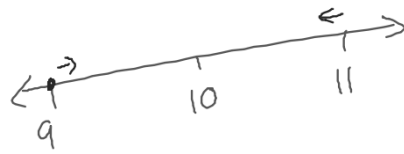
$$\frac{m^2 + 7}{4} > 22$$

$$m^2 + 7 > 88$$

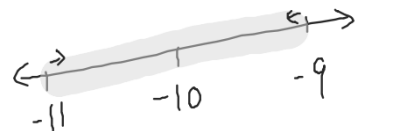
$$m^2 > 81$$

$$m = 9$$

$$m = -9$$



$$9 < m < 11 \checkmark$$



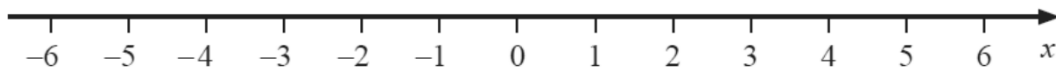
$$-11 < m < -9 \checkmark$$

(Total for Question 19 is 5 marks)

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

A17

A18



(3)

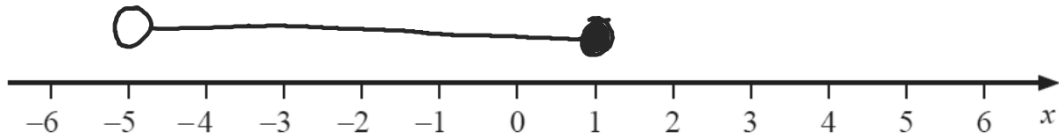
(b) On the number line below, show the set of values of x for which $-2 < x + 3 \leq 4$

A17

A18

$$-2 - 3 < x \leq 4 - 3$$

$$-5 < x \leq 1$$



(3)

AQA

27 How are the whole number solutions to A and B different?

A18

A Solve $3 \leq 3x < 18$

B Solve $3 < 3x \leq 18$

[2 marks]

How are the whole number solutions to A and B different?

A18

A Solve $3 \leq 3x < 18$

B Solve $3 < 3x \leq 18$

[2 marks]

$A \quad 3 \leq 3x < 18$	$B \quad 3 < 3x \leq 18$
$x = 1, 2, 3, 4, 5$	$x = 2, 3, 4, 5, 6$
✓	✓
✓	✓

18 x is greater than 5 **and** less than or equal to 9
Circle the inequality that shows this.

[1 mark]

A18

$5 \leq x < 9$

$5 > x \geq 9$

$5 \leq x > 9$

$5 < x \leq 9$

18 x is greater than 5 **and** less than or equal to 9
Circle the inequality that shows this.

[1 mark]

A18

$5 \leq x < 9$
X

$5 > x \geq 9$
X

$5 \leq x > 9$
X

$5 < x \leq 9$


2 Circle the list of **all** the integers that satisfy $-2 < x \leq 4$ [1 mark]

A18

-2, -1, 0, 1, 2, 3

-1, 0, 1, 2, 3

-2, -1, 0, 1, 2, 3, 4

-1, 0, 1, 2, 3, 4

2 Circle the list of **all** the integers that satisfy $-2 < x \leq 4$ [1 mark]

A18

-2, -1, 0, 1, 2, 3

-1, 0, 1, 2, 3

-2, -1, 0, 1, 2, 3, 4

-1, 0, 1, 2, 3, 4

24

x is an integer.

A18

$$-4 < x < 2$$

and

$$2 < x + 3 < 9$$

Work out all the possible values of x .

[3 marks]

Answer _____

24

x is an integer.

A18

$$-4 < x < 2$$

and

$$2 < x + 3 < 9$$

Work out all the possible values of x .

[3 marks]

$-4 < x < 2$

~~$-3, -2, -1, 0, 1, 2$~~

$2 < x + 3 < 9$

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

$-1 < x < 6$

$-1, 0, 1, 2, 3, 4, 5$

Answer $-1, 0, 1, 2$

