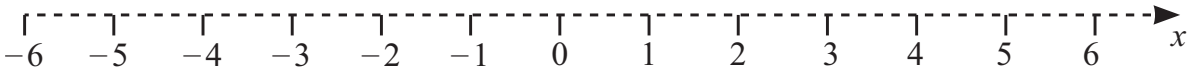
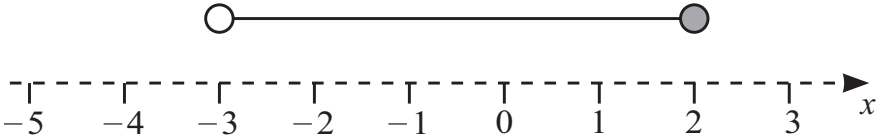


7 Represent the inequality $-4 < x \leq 3$ on the number line.



[2]

7 (a)



Write down the inequality represented in the diagram.

..... [2]

(b) Write down the integer values of x that satisfy the inequality $-4 < 2x \leq 8$.

..... [2]

- 24** Martha walks a distance of 10 km at a speed of x km/h.
 She then runs a distance of 5 km at a speed of $(x + 4)$ km/h.
 The total time taken for the whole journey is 3.5 hours.

(a) Write down an expression in terms of x for the time Martha is walking.

..... h [1]

(b) Show that $7x^2 - 2x - 80 = 0$.

[4]

(c) Solve $7x^2 - 2x - 80 = 0$, giving your answers correct to 2 decimal places.
 You must show all your working.

$x = \dots\dots\dots$ or $x = \dots\dots\dots$ [3]

(d) Calculate the difference between the time Martha is walking and the time she is running.
 Give your answer in hours and minutes correct to the nearest minute.

18 One day, Anya runs 12 km at a speed of x km/h.
The next day she walks 10 km at a speed of $(x - 4)$ km/h.

(a) Write down an expression, in terms of x , for the time she spends running.

..... h [1]

(b) Write down an expression, in terms of x , for the time she spends walking.

..... h [1]

(c) The time Anya spends walking is 1 hour more than the time she spends running.

Write an equation in terms of x and show that it simplifies to $x^2 - 2x - 48 = 0$.

[4]

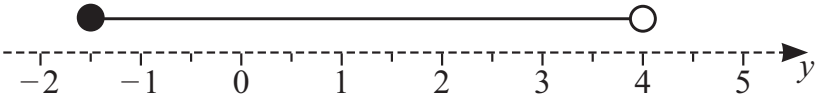
(d) Use factorisation to solve the equation $x^2 - 2x - 48 = 0$.

$x =$ or $x =$ [3]

(e) Find the time Anya spends running.

..... h [1]

7



Write down the inequality in y shown by the number line.

..... [2]