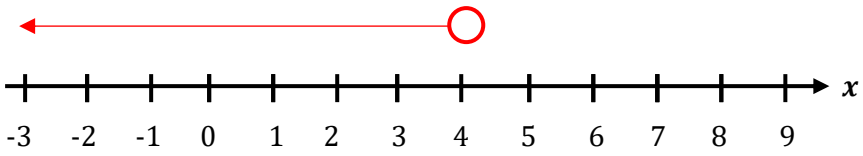
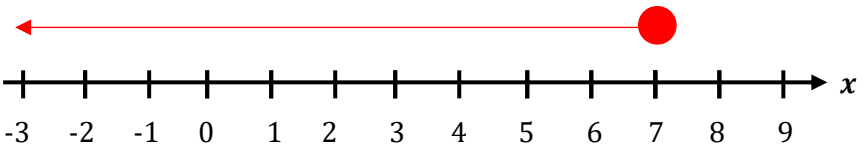
Inequalities

1. Represent $x < 4$ on the number line.



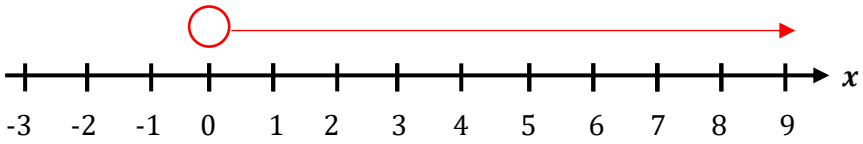
(1 mark)

2. Represent $x \leq 7$ on the number line.



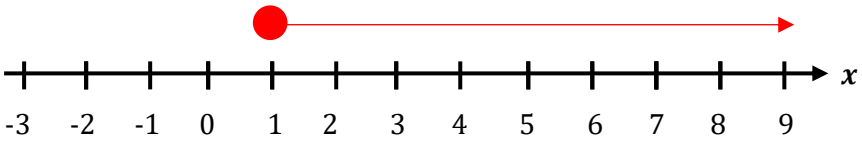
(1 mark)

3. Represent $x > 0$ on the number line.



(1 mark)

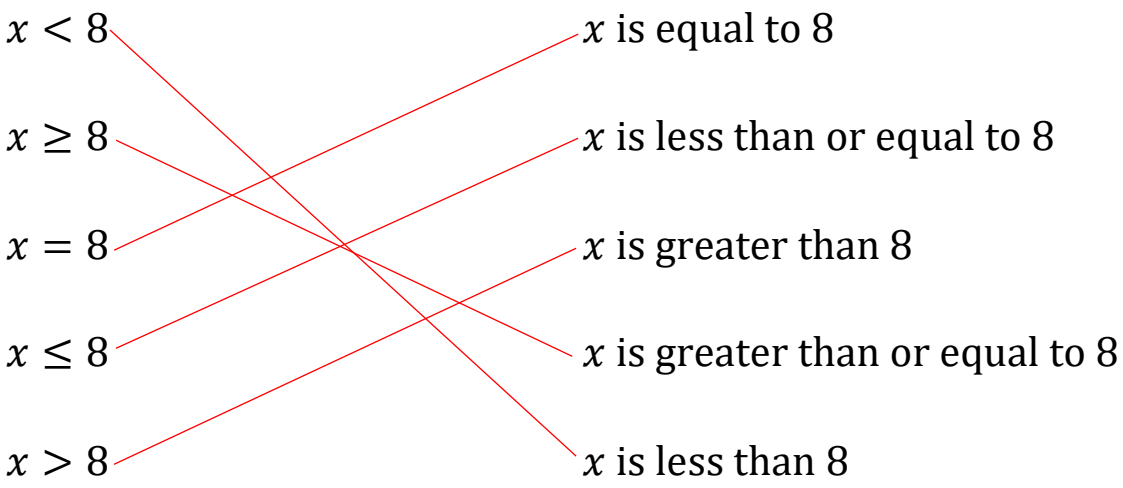
4. Represent $x \geq 1$ on the number line.



(1 mark)

Inequalities

5. Match up the inequality with the correct sentence.



(5 marks)

6. Solve $5x < 45$

$x < 9$

(1 mark)

7. Solve $x + 9 \geq 13$

$x \geq 4$

(1 mark)

8. Solve $\frac{x}{4} > 6$

$x > 24$

(1 mark)

Inequalities

9. Solve $2x - 3 \leq 11$

$$2x \leq 14$$
$$x \leq 7$$

(2 marks)

10. Solve $\frac{x}{7} - 4 > 5$

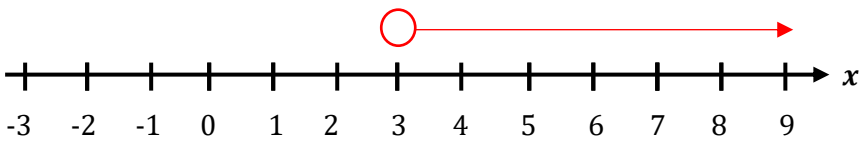
$$\frac{x}{7} > 9$$
$$x > 63$$

(2 marks)

11. a) Solve $5x + 6 > 21$

$$5x > 15$$
$$x > 3$$

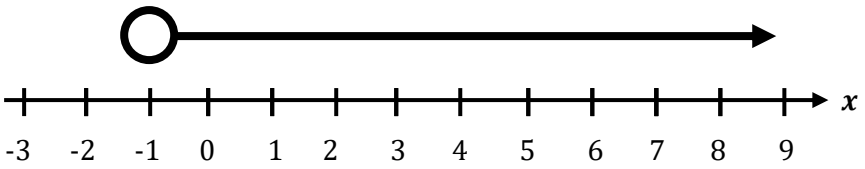
b) Represent your answer on the number line



(3 marks)

Inequalities

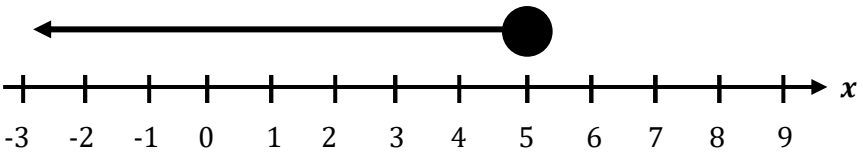
12. Write down the inequality shown on the number line.



$x > -1$

(1 mark)

13. Write down the inequality shown on the number line.



$x \leq 5$

(1 mark)

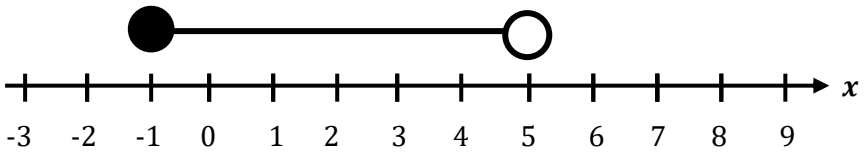
14. Solve $3(2x + 1) > 27$

$6x + 3 > 27$
$6x > 24$
$x > 4$

(2 marks)

Inequalities

15. What are all the integers that satisfies



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

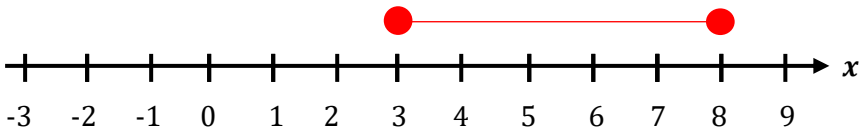
(2 marks)

16. What are all the integers that satisfies

1,2,3,4,5,6,7,8

(2 marks)

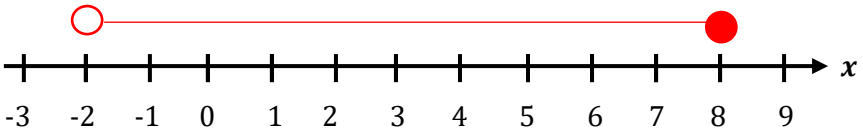
17. Represent $3 \leq x \leq 8$ on the number line



(2 marks)

Inequalities

18. Represent $-2 < x \leq 8$ on the number line



(2 marks)

19. Solve $4 \leq 2x - 2 < 10$

$6 \leq 2x < 12$

$3 \leq x < 6$

(2 marks)

20. Solve $8 < 5x + 3 < 23$

$5 < 5x < 20$

$1 < x < 4$

(2 marks)

21. Solve $3x + 4 \geq 5x - 12$

$4 \geq 2x - 12$

$16 \geq 2x$

$x \leq 8$

(2 marks)

Inequalities

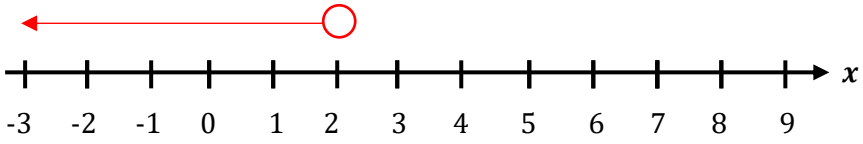
22. a) Solve $8x + 4 < 4x + 16$

$4x + 4 < 12$

$4x < 8$

$x < 2$

b) Represent your answer on the number line



(3 marks)

23. Jacob is doing his maths homework.
Can you spot his mistakes and correct them?

Solve: $3 < 2x - 3 \leq 9$

$6 < 2x \leq 9$

$3 < x \leq 9$

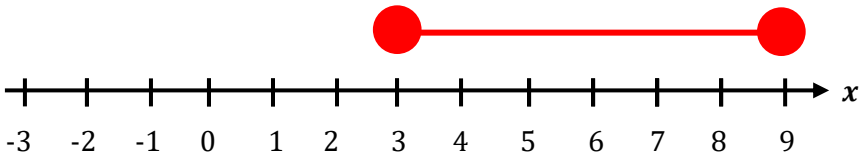
Hasn't added 3 to both sides

Hasn't divided by 2 on both sides

$6 < 2x \leq 12$

$3 < x \leq 6$

Represent your answer on the number line



(2 marks)