



2.1 – Inequalities

Student name: _____ Score: _____

1. Solve for x .

$$10 < 2(6 - x)$$

$$x > 1$$

..... [3]

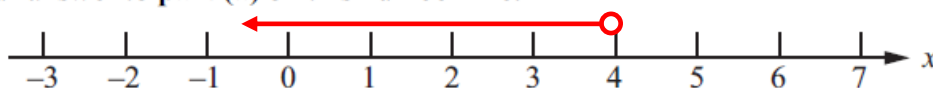
2. (a) Solve this inequality.

$$3(x + 2) > 5x - 2$$

$$x < 4$$

..... [3]

- (b) Show your answer to part (a) on this number line.



[2]

3. Solve.

$$2x + 3 \leq 4(x - 2)$$

$$x \geq 5.5$$

..... [3]

4. Solve.

$$2x + 3 > 2(3x - 1)$$

$$x < 1.25$$

..... [3]

5. Solve the inequality.

$$9 - x > 6x + 2$$

$$x < 1$$

..... [2]

6. $|x| < 4$ and x is an integer.

Find the smallest possible value of x .

$$-4$$

..... [1]

7. Solve.

$$4x + 2 > 3(2x - 4)$$

$$x < 7$$

..... [3]

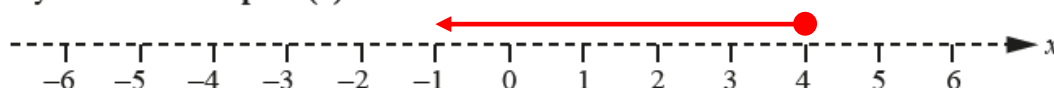
8. $3x + 2 \geq 5x - 6$

- (a) Solve the inequality.

$$x \leq 4$$

..... [2]

- (b) Show your solution to part (a) on this number line.



[1]

9. Solve.

$$3x + 7 < 1$$

$$x \leq -2$$

..... [2]

10. (a) Find a fraction, n , that satisfies this inequality.

$$\frac{5}{7} < n < \frac{6}{7}$$

$n =$ any fraction in range [1]

(b) Write down an irrational number, m , that satisfies this inequality.

$$4 < m < 7$$

$m =$ any irrational number in range [1]

11. Solve $3 - x \geq 2x + 15$.

$x \leq -4$ [2]

12. (a) Write down the integer solutions to this inequality.

$$-2 \leq 2x < 8$$

$-1, 0, 1, 2, 3$ [2]

(b) Solve $2 + 2x > 5x + 14$.

$x < -4$ [2]

13. Solve.

$$(x - 4)(x + 3) > 0$$

$x > 4, x < -3$ [2]

14. Solve.

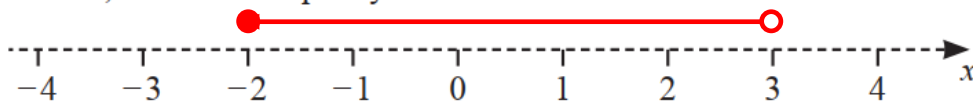
$$9 - 2x \leq 5(x + 6)$$

$x \geq -3$ [3]

15. Solve $2x + 3 < 5x - 12$.

$x > 5$ [2]

16. On the number line, show the inequality $-2 \leq x < 3$.



[2]

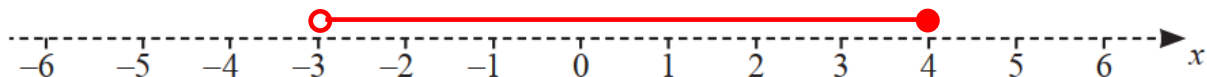
17. Solve.

$$6x^2 - 7x - 3 < 0$$

$-\frac{1}{3} < x < \frac{3}{2}$ [3]

18. Show this inequality on the number line.

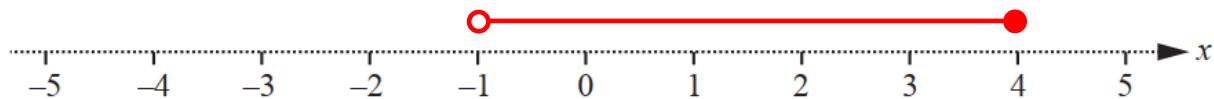
$$-3 < x \leq 4$$



[2]



19. Show the inequality $-1 < x \leq 4$ on this number line.



[2]

20. List the integer values of x for which $-4 \leq 2x < 6$.

$-2, -1, 0, 1, 2$

[2]

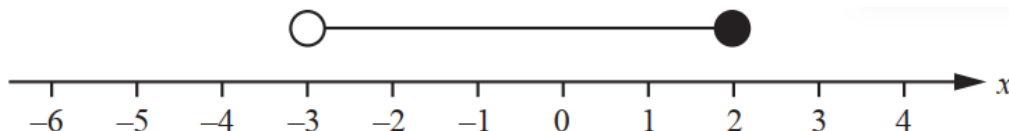
21. Solve.

$$4x + 9 \leq 3(2x - 1)$$

$x \geq 6$

[3]

22.



Write down the inequality shown above.

$-3 < x \leq 2$

[1]

23. List the integer values of x such that $-3 < x \leq 1$.

$-2, -1, 0, 1$

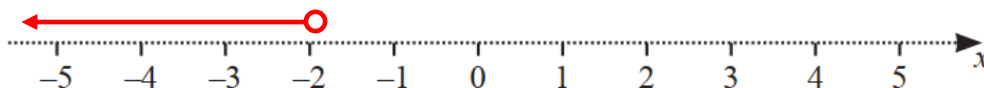
[2]

24. (a) Solve $3x - 2 > 7x + 6$.

$x < -2$

[2]

(b) Show your solution to **part (a)** on this number line.



[1]

25. Find the integer values of x when $-1 \leq x < 3$.

$-1, 0, 1, 2$

[2]

26. Solve $2x + 6 > 5x - 10$.

$x < \frac{16}{3}$ or $x < 5\frac{1}{3}$

[2]