

1. Write down the inequality, in terms of n , shown by the number line. [1]



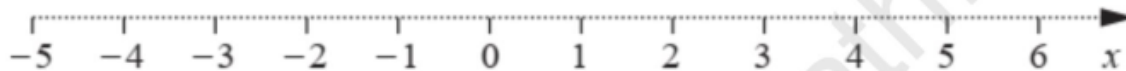
2. Write down the inequality in x shown by the number line. [1]



3. Write down the inequality shown by the number line. [1]

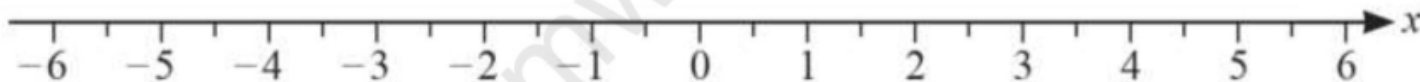


4. Represent the inequality $-4 \leq x < 2$ on the number line below. [1]



5. (i) Solve. $x - 3 \leq 5x + 7$ [2]

- (ii) Show your answer to part (b)(i) on the number line. [1]



6. Solve the following inequalities and represent solution on a number line:

(a) $3n - 11 > 5n - 18$

(b) $3n - 5 > 17 + 8n$

(c) $7 - 8x \geq 19 + 2x$



(d) $6n + 3 > 8n$

(e) $n + 7 < 5n - 8$

(f) $5t + 23 < 17 - 2t$

(g) $3x - 1 \leq 11x + 2$

(h) $7x - 5 > 3(2 - 5x)$

(i) $5(x - 4) < 3(12 - x)$

(j) $\frac{x}{2} - 13 > 12 + 3x$

(k) $\frac{2x-3}{5} - \frac{x}{3} \leq 2$

(l) $6(2 - 3x) - 4(1 - 2x) \leq 0$



(m) $\frac{2x+1}{3} \leq \frac{5x-8}{4}$

(n) $2x + 5 < \frac{x-1}{4}$

(o) $\frac{x}{3} + 5 > 2$

(p) $\frac{x}{2} + \frac{x-2}{3} < 5$

7. (a) List the positive integers that satisfy the inequality $x + 13 \geq 3x + 7$

(b) Find the positive integers that satisfy the inequality $t + 2 > 3t - 6$

(c) Solve the inequality for positive integer values of x $\frac{21+x}{5} > x + 1$

(d) Find the integer values of n that satisfy the inequalities $15 \leq 4n < 28$



- (e) Find the integers which satisfy the inequality $-5 < 2n - 1 \leq 5$
- (f) Find the integer values of n that satisfy this inequality $-7 < 4n \leq 8$
- (g) Find the **integer** values of n that satisfy the inequality $18 - 2n < 6n \leq 30 + n$
- (h) Find the integer values for x which satisfy the inequality $-3 < 2x - 1 \leq 6$
- (i) List all the **prime numbers** which satisfy this inequality $16 < 2x - 5 < 48$

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ANSWERS:

1. $n > -1$ 2. $-2 < x \leq 1$ 3. $-2 < x \leq 4$ 5. (i) $x \geq -2.5$
6. (a) $n < 3.5$ (b) $n < -4.4$ (c) $x \leq -1.2$ (d) $n < 1.5$ (e) $n > 3.75$ (f) $t < -6/7$
(g) $x \geq -3/8$ (h) $x > 0.5$ (i) $x < 7$ (j) $x < -10$ (k) $x \leq 39$ (l) $x \geq 0.8$
(m) $x \geq 4$ (n) $x < -3$ (o) $x > -9$ (p) $x < 6.8$
7. (a) 1, 2, 3 (b) 1, 2, 3 (c) 1, 2, 3 (d) 4, 5, 6 (e) -1, 0, 1, 2, 3 (f) -1, 0, 1, 2
(g) 3, 4, 5, 6 (h) 0, 1, 2, 3 (i) 11, 13, 17, 19, 23