Inequalities

1. Solve the following linear inequalities.

a. $x + 4 < 7$ **b.** $t - 3 > 5$ **c.** $p + 2 \leq 12$

_____ _____ _____

d. $2x - 3 < 7$ **e.** $4y + 5 \leq 17$ **f.** $3t - 4 > 11$

_____ _____ _____

g. $s + 4 < 7$ **h.** $p + 3 \geq 6$ **i.** $r - 2 \geq 4$

_____ _____ _____

j. $3(x - 2) < 15$ **k.** $5(2x + 1) \leq 35$ **l.** $2(4t - 3) \geq 34$

_____ _____ _____

2. Write down the largest value of x that satisfies each of the following.

a. $x - 3 \leq 5$, where x is a positive **integer**.

b. $x + 2 < 9$, where x is a positive, even integer.

c. $3x - 11 < 40$, where x is a square number.

d. $5x - 8 \leq 15$, where x is a positive, odd number.

e. $2x + 1 < 19$, where x is a positive, prime number.

3. Find the value of the unknown quantities from the following inequalities and draw the number line to represent their values.

$-4 < n \leq 1$
n is an integer.
(a) Write down all the possible values of n.

....

(b) Solve $3x - 2 > x + 7$

....

4. From the number line below, write all possible values of the unknown quantities.

$-3 \le n < 2$
n is an integer.
(a) Write down all the possible values of n.

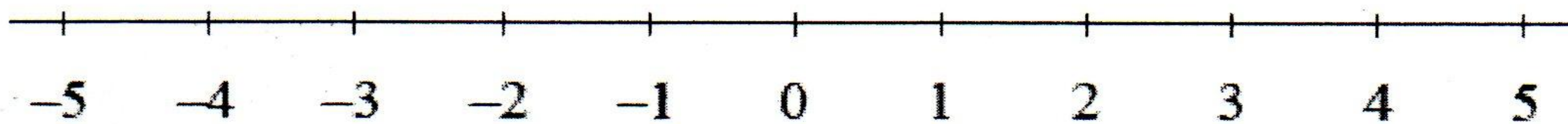. . . . .

(b) Write down the inequalities represented on the number line.

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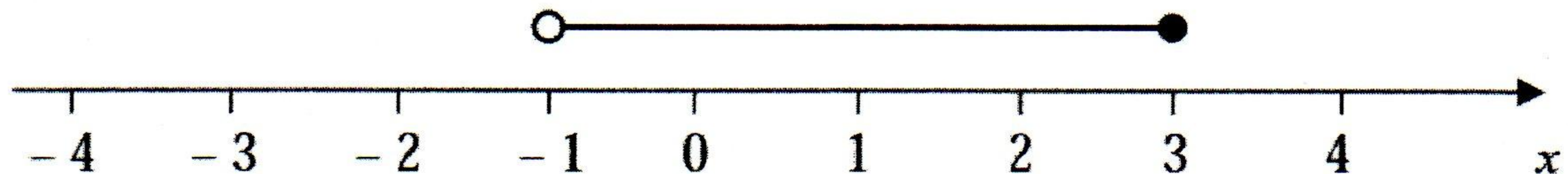
5. $x < -2$ Show this inequality on the number line.

6. Solve the following inequality.
$7n - 1 < 3n + 5$

Draw diagrams to illustrate the following.

7. $x > -2$

8. $2 < x \le 5$

9. $-1 \ge x \ge 3$

10. $-3 < x < 4$

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