Form 1

Chapter 7 : Linear Inequalities

TEACHER'S NAME:

NAME:

CLASS:

7.1 INEQUALITIES

Notes

- **Inequality is the relationship between two different quantitative values.**

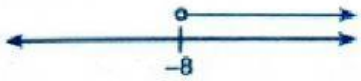
Simbol	Represent
>	Greater than
<	Smaller than
≤	Greater than or equal
≥	Smaller than or equal

- **Symbol · represents in equality ≥ or ≤.**
- **Symbol o represents in equality n > or < .**

A Fill in the following blanks with > or <.

i) 8 ☐ 12	ii) -20 ☐ 20
iii) -11 ☐ - 13	iv) 0.089 ☐ 0.098
vi) $\frac{3}{8}$ ☐ $\frac{1}{7}$	vi) $-\frac{5}{6}$ ☐ -0.9

B Choose the correct answer

a		$x < -8$ $x \leq -8$ $x > -8$ $x \geq -8$
b		$x < 42$ $x \leq 42$ $x > 42$ $x \geq 42$

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c		$x < -52$ $x \le -52$ $x > -52$ $x \ge -52$
d		$x < 3.5$ $x \le 3.5$ $x > 3.5$ $x \ge 3.5$
e		$x < 225$ $x \le 225$ $x > 225$ $x \ge 225$

C Fill in the blanks with> or <so that the following statements are true.

a	$\frac{7}{2} > \frac{5}{2}$ $\frac{7}{2} - 8$ ☐ $\frac{5}{2} - 8$
b	$\frac{3}{4} < \frac{5}{4}$ $\frac{3}{4} + (-2)$ ☐ $\frac{5}{4} + (-2)$
c	$2.4 < 3$ $2.4 - (-4)$ ☐ $3 - (-4)$
d	$15 > 2.5$ $15 + (-4)$ ☐ $2.5 + (-4)$
e	$0.1 > 0.01$ $0.1 - (-1)$ ☐ $0.1 - (-1)$

D Fill in the blanks with> or <so that the following statements are true.

i) $2 < 5$ $2 \times (-1)$ ☐ $5 \times (-1)$	ii) $7 > 5$ $7 \times (-1)$ ☐ $5 \times (-1)$

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iii) $3.9 < 4.1$ $3.9 \times (-1)$ ☐ $4.1 \times (-1)$	**iv)** $-\frac{1}{9} > -\frac{5}{10}$ $-\frac{1}{9} \times (-1)$ ☐ $-\frac{5}{10} \times (-1)$

E Tick / for the correct statement or X for the opposite.

i) $4 < 5$ $\frac{1}{4} > \frac{1}{5}$ ○	**ii)** $7 > 3$ $\frac{1}{7} > \frac{1}{3}$ ○
iii) $2.6 > 2.06$ $\frac{1}{2.6} > \frac{1}{2.06}$ ○	**iv)** $-\frac{1}{5} > -\frac{1}{4}$ ○

7.2 LINEAR INEQUALITIES IN ONE VARIABLE

Notes

- **A linear inequality in one variable is the relationship of one variable that is not equal to its value.**

F Form of a linear inequality based on the following situation.

PChoose the correct answer

a	**Azlan's minimum salary in a week is RM850.** $x > 850$ $x \geq 850$ $x < 850$ $x \leq 850$
b	**The price of a novel is RM18. The price for 7 pens is bigger than that.** $7x > 18$ $7x \geq 18$ $7x < 18$ $7x \leq 18$
c	**The number of passengers on a ferry cannot exceed 40 people.** $x > 40$ $x \geq 40$ $x < 40$ $x \leq 40$
d	**Suzana's Maths score is over 60 marks** $x > 60$ $x \geq 60$ $x < 60$ $x \leq 60$

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e	**The amount of money given by Salim's parents does not exceed RM 100 to buy books.** $x > 100$ $x \geq 100$ $x < 100$ $x \leq 100$

G Solve each of the following inequalities.

Drag the answer and place it in the answer space.

$p > 1$ $x \leq -7$ $x \geq -2$ $x \geq 13$ $p < 12$

$x > 36$ $x \leq -3$ $x < -3$ $y \geq 8$

i) $x - 4 \geq 9$	**ii)** $x + 5 \leq -2$	**iii)** $p - \frac{1}{3} > \frac{2}{3}$
iv) $\frac{x}{4} > 9$	**v)** $-\frac{x}{4} \leq \frac{1}{2}$	**vi)** $8y \geq 64$
vii) $10 - 6x \geq 25 - x$	**viii)** $2p - 9 < p + 3$	**ix)** $6 - 5x > 21$

H Solve each of the following inequalities.

a	**A container has 21 pieces of biscuits. The container can hold less than 144 pieces of biscuits. Then, the mother and sister each bought 2x and x pieces of biscuits to put in the container. Calculate the maximum number of biscuits bought by the mother.**

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b	**Lee Hong wants to buy several pairs of slippers, each of which costs RM15.30. he wants to pay with RM100 and estimates to get a balance of more than RM56. Calculate the maximum number of slippers he can buy.**

I Solve the following simultaneous linear inequalities

Drag the answer and place it in the answer space.

$p < -4$ | $-9 \le x \le 2\frac{1}{2}$ | $k \ge 8$ | $2 < y < 6$

i) $\frac{k}{2} \ge 4$ **dan** $2k - 3 \ge 5$

ii) $3(4 - y) < 2(y + 1)$ **dan** $2y - 5 < 7$

ii) $\frac{5 - 3p}{2} \ge -2$ **dan** $-\frac{p}{4} > 1$

iv) $3(7 - 2x) \ge 6$ **dan** $4 - \frac{2}{3}x \le 10$

J Exercises.

a) Fill in the blanks below with the symbol > or <.

Answers:

-8 ☐ **-1**

b) In the answer space, choose X, Y or Z that represents the number line

$-5 < n \leqslant 11$ — *X*

$-5 \leqslant n \leqslant 11$ — *Y*

$-5 \leqslant n < 11$ — *Z*

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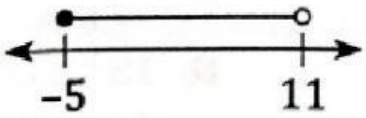
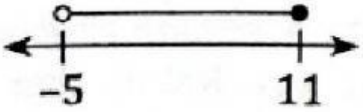
Answer :

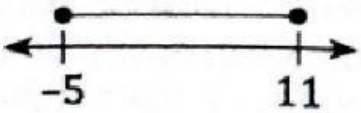
i)



ii)



iii)



c) **Fill in the blanks in the answer space using the integers in the following diagram.**

(i) −6 −13 (ii) 25 6 (iii) −13 1

Answer:

i) ☐ > ☐

ii) ☐ < ☐

iii) ☐ > ☐

d) **Choose the correct inequality.**

Answer:

a	-21 > -9	-21 < -9
b	14 > 11	14 > 11
c	-5 > 5	-5 < 5
d	23 > 32	23 < 32

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