# Form 1

# Chapter 7 : Linear Inequalities

TEACHER'S NAME:

NAME:

CLASS:

## 7.1 INEQUALITIES

**Notes**

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

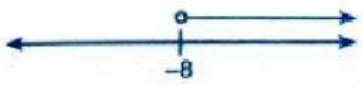
| Simbol | Represent |
|---|---|
| > | Greater than |
| < | Smaller than |
| ≤ | Greater than or equal |
| ≥ | Smaller than or equal |

- **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 |   | $x < 42$ $x \leq 42$ $x > 42$ $x \geq 42$ |

LIVEWORKSHEETS

| | | |
|---|---|---|
| c |  | $x<-52$ $x\leq -52$ $x>-52$ $x\geq -52$ |
| d |  | $x<3.5$ $x\leq 3.5$ $x>3.5$ $x\geq 3.5$ |
| e |  | $x<225$ $x\leq 225$ $x>225$ $x\geq 225$ |

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

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

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

| | |
|---|---|
| i) $2<5$<br>$2\times(-1)$ ▭ $5\times(-1)$ | ii) $7>5$<br>$7\times(-1)$ ▭ $5\times(-1)$ |

LIVEWORKSHEETS

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

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

| | |
|---|---|
| **i)** $4 < 5$<br>$\frac{1}{4} > \frac{1}{5}$ ◯ | **ii)** $7 > 3$<br>$\frac{1}{7} > \frac{1}{3}$ ◯ |
| **iii)** $2.6 > 2.06$<br>$\frac{1}{2.6} > \frac{1}{2.06}$ ◯ | **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.**<br>$x > 850$ $x \geq 850$ $x < 850$ $x \leq 850$ |
| b | **The price of a novel is RM18. The price for 7 pens is bigger than that.**<br>$7x > 18$ $7x \geq 18$ $7x < 18$ $7x \leq 18$ |
| c | **The number of passengers on a ferry cannot exceed 40 people.**<br>$x > 40$ $x \geq 40$ $x < 40$ $x \leq 40$ |
| d | **Suzana's Maths score is over 60 marks**<br>$x > 60$ $x \geq 60$ $x < 60$ $x \leq 60$ |

LIVEWORKSHEETS

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

**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.** |

LIVEWORKSHEETS

| | |
|---|---|
| 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** $4 - \frac{2}{3}x \le 10$

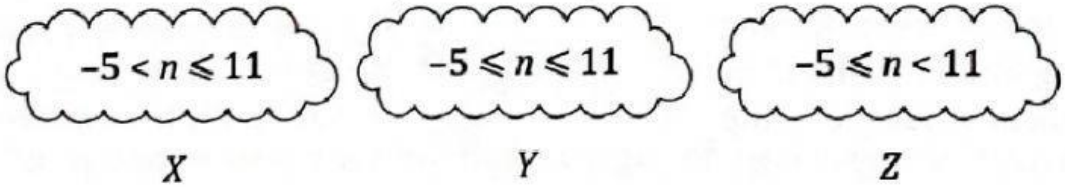
**J Exercises.**

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

**Answers:**

**-8** ☐ **-1**

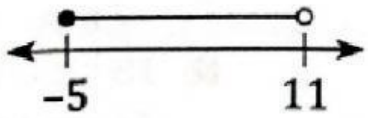
**b) In the answer space, choose X, Y or Z that represents the number line**



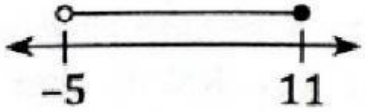

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Answer :

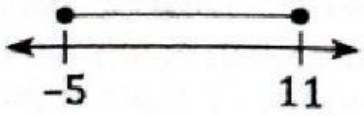
i)




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 |

LIVEWORKSHEETS