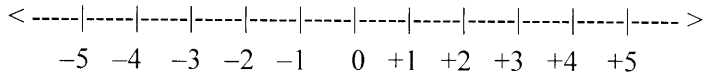
Name _____ Introduction to Technical Mathematics
Date _____ Class #8

Chapter 4.3: Linear Inequalities

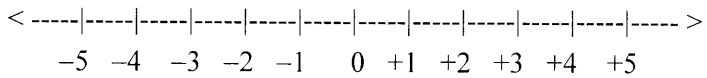
Quality – Accuracy – Transfer – 100%

Section 1. **Graph each of the following algebraic inequalities on the number line provided. Learn by doing. For each exercise, perform the "POINT TEST" as your check.**

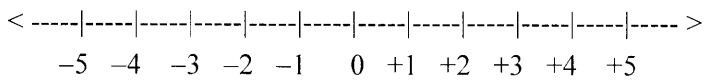
1. $x > -2$



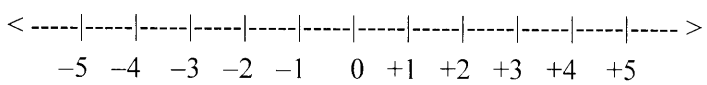
2. $x \leq +4$



3. $x \geq -4$



4. $x < +2$

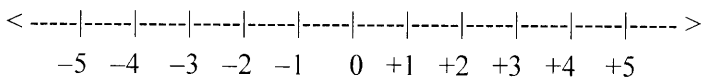


Observations: _____

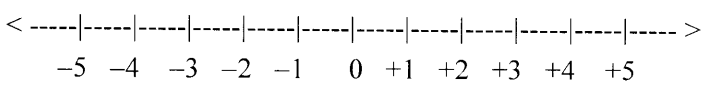
_____

Section 2. **More Linear Graphing:**

5. $+3 > x$



6. $-5 \leq x$



Observations: _____

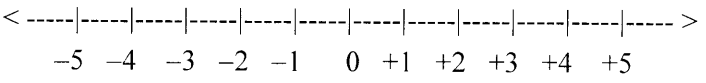
_____

The Symmetric Property of Inequality: _____

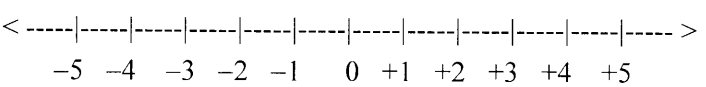
_____

Section 3. **Solving and Graphing $-x$. Graph the following. For each exercise, perform the "POINT TEST" as your check.**

7. $-x \geq +4$



8. $-3 < -x$



Observations: _____

_____

The Multiplication/Division Property of −1: _____

_____

Graphing Linear Inequalities: The "Good News and Bad News" Game.

Good News: _____ Bad News: _____ = _____

_____ _____ = _____

Section 4. **Linear Inequalities – Multiple Step Equations: Find and graph the solution sets. Check.**

Let's Play the "Good News" / "Bad News" Game

9. $x - 2 > 4$

10. $19 \leq y + 17$

11. $\frac{2x}{3} \geq 12$

12. $27 > -9y$ <----------->

13. $2x - 1 > 5$ <----------->

14. $-5 \leq 3y - 2$ <----------->

15. $-2d + 3 \geq 17$ <----------->

16. $6(x+5) < x + 10$ <----------->

Chapter 4.4: Word Problems – Solving Strategies

Section 1. Solving Word Problems that Reference Geometric Forms (Triangles, Parallelograms, Circles).

Step 1: _____

1. A rectangular plate is to be the base for a circuit board. Its length is 2 in.more than its width. It has a perimeter of 36 inches. Find and state the dimensions of the circuit board.

Perimeter Formula for a Rectangle: _____

The Famous "Separate" Problem:

2. In designing an electric circuit, it is found that 34 resistors with a total resistance of 56 Ω are required. Two different resistors, 1.5 Ω and 2.0 Ω are used. How many of each type are used in the circuit.

3. Several 6-V and 12-V batteries are arranged so that their individual voltages combine to be a power supply of 84V. How many of each type are present if the total number of batteries is 10?

4, A machinist made 132 machine parts of two different types. He made 12 more Type I parts than Type II parts. How many of each part did he make?

5. A company plans to issue 24,500 shares of two different kinds of stock which will have a combined value of $800,000. One stock is worth $100 per share and the other is $25 per share. How many shares of each stock will be issued?

Chapter 4.5: Word Problems – Solving Strategies

1. Define: Ratio - _____

Expressing Ratios: _____

_____

_____

2. Ratios are used to compare "like" quantities

The dimensions of a laboratory are 18 yards by 12 feet. Write the ratio of the length of the lab to its width.

Section 2. Writing and Solving Proportions.

By Rule:_____

3. The ratio of a given number to 3 is the same as the ratio of 16 to 6. Find the number.

4. A certain alloy is 5 parts tin and 2 parts lead. How many kg or each of there in 35 kg of the alloy?

5. A landowner has a 6 ft fence post on his property. At 2PM each day in the summer, the post casts a 4 ft shadow. At that same time a tree nearby casts a shadow that is 35 feet long. How tall is the tree?

Homework:

Section(s)	Page(s)	Problem(s)
4.3	131	1 → 19 Odd
4.4	138 → 139	1, 3, 5, 7, 11, 13, 23, *27
4.5	148 → 149	1 → 27 Odd, 29 → 49 E.O.O.

* Must Do