

MEASUREMENT

One of the key processes of TQM is measurement. Accountants are trained to measure, but the rest of us need to learn how. It is important that everyone in the organization learn the techniques because they are simple and can be powerful in communicating quality problems. At Norfield we have a phrase "I think therefore I whine... I measure, therefore I know". With measurement you can know the magnitude of a problem verses you think you know. We have included a copy of our measurement handbook for your reference. Feel free to copy any of the pages for your use or modification.

What you'll find in this handbook . . .

Introduction - This section includes guidelines for deciding whether or not to measure.

How to - This section helps you identify what should be measured, how to measure it, and how to communicate that measurement.

Costs/Forms - This section contains various company costs for items that you may want to include in your measurement. You'll also find samples of blank forms/charts/graphs that have been included TO MAKE IT EASY for you to photocopy.

Examples - This section includes examples of actual measurement that have been taken here at Norfield by the Service Department, Tools & Supplies, the Parts/Fabrication Department, and the Assembly Department. We've tried to include several different types of measurement, but remember that this doesn't show ALL the different ways there are to measure.

MEASUREMENT HANDBOOK

**WHY MEASURE?
&
HOW TO MEASURE**

**A GUIDE TO
MEASUREMENT AT
*NORFIELD***

**NORFIELD INDUSTRIES
1997**

MEASUREMENT HANDBOOK GUIDELINES

WHY IS THERE A HANDBOOK?

To encourage everyone to use measurement as a tool to gather information (evidence or proof) about a situation that may need improvement.

WHY SHOULD YOU MEASURE?

Gathering this information and presenting it as something we KNOW rather than something we THINK gives us the opportunity as employees to promote change that will enhance our life at work by eliminating hassles. This book will help you accomplish that.

WHAT SHOULD BE MEASURED?

Anything you think needs change. This change can be a reduction in cost, labor, hassles, etc.

WHEN SHOULD YOU MEASURE?

When an event has occurred more than one time, and will more than likely happen again. If there is a situation that you feel is not being handled in an appropriate manner or you feel there is a more efficient way to do it.

HOW DO YOU MEASURE?

Within this binder you will find the following tools, all of which have been included to make it as easy as possible for you to measure:

Many Helpful Hints

Examples of Actual Measurement

Blank forms for you to copy

If you still have questions about measurement after going through this handbook, please contact your supervisor or a member of the Q.I.T. (Quality Improvement Team).

This manual is reviewed and updated yearly by the Q.I.T., however if you have suggestions or comments related to the measurement process, please communicate with the Q.I.T. through either an E.C.R. or C.P.R. form. All feedback is appreciated.

Before you begin to measure, ask yourself the following questions:

1. Is this a one-time occurrence?
 - YES - then do you really need to measure?
 - NO - continue to questions #2

2. Has there been a deviation from the current process?

3. Do we need a new process or do we need to revise an existing process?

MEASUREMENT CAN BE

AS SIMPLE AS ASKING

YOUR

EXTERNAL/INTERNAL

CUSTOMER HOW

YOU'RE DOING.

**IF YOU ARE AWARE OF AN
“OPPORTUNITY FOR
IMPROVEMENT” IT IS YOUR
RESPONSIBILITY TO IDENTIFY,
MEASURE, AND REPORT IT.**

**TAKE OWNERSHIP & BE
PROACTIVE IN ORDER TO MAKE
THINGS BETTER AND MAKE
YOURSELF *FEEL* BETTER!**

**IF YOU WANT TO AFFECT A
CHANGE, IT’S UP TO YOU - NO
ONE CAN DO IT FOR YOU -
CHAMPION YOUR CAUSE!**

**STRIVE FOR “I KNOW” INSTEAD
OF “I THINK”.**



I measure,
therefore I know!

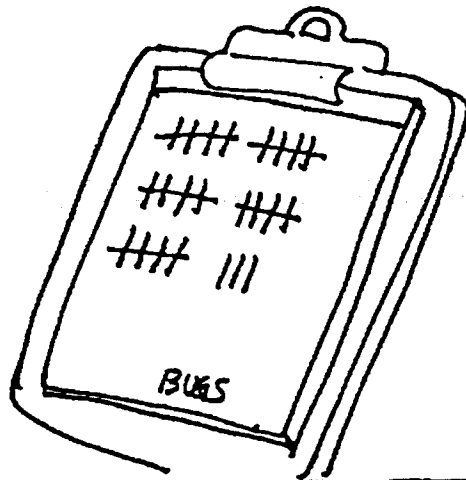
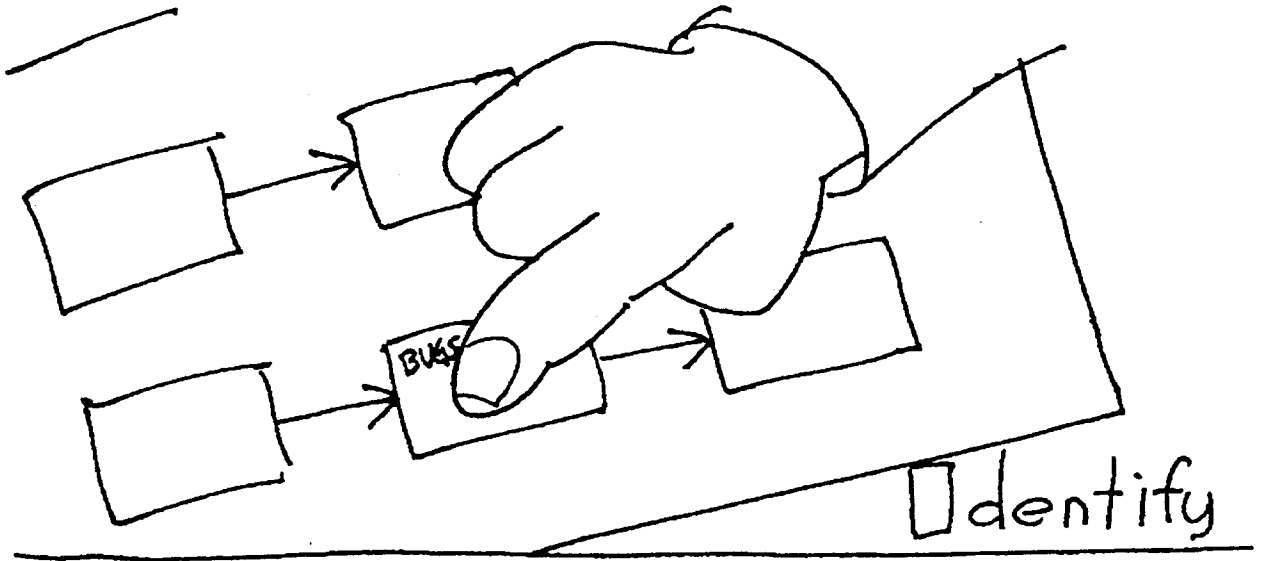
INTUITION, HUNCHES OR EDUCATED
GUESSES CANNOT BY THEMSELVES
DETERMINE CONFORMANCE. A
MECHANISM IS NEEDED TO
DISTINGUISH BETWEEN:

“I THINK”

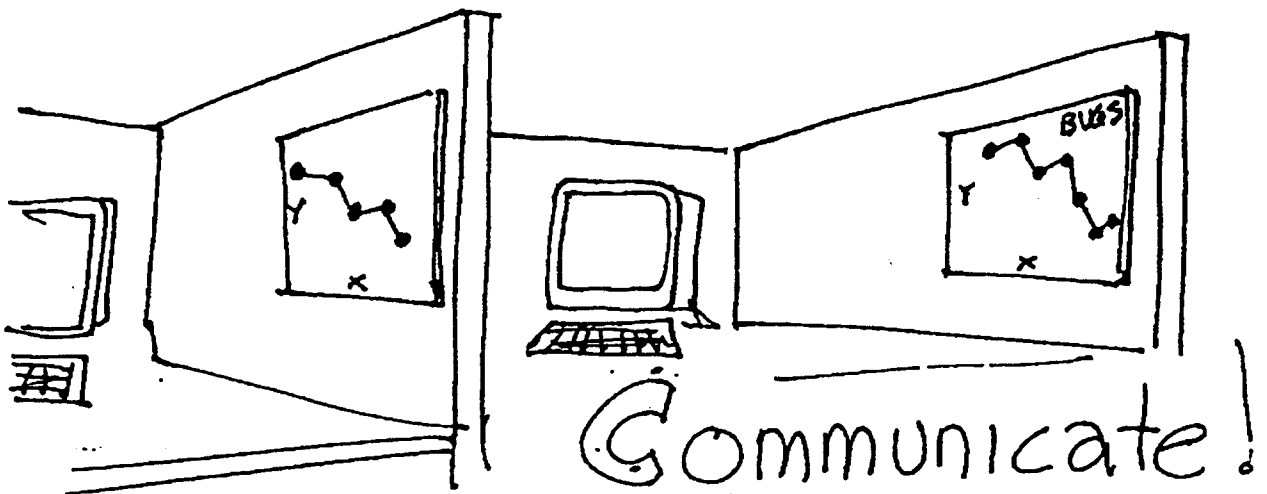
AND

“I KNOW”

GET TO "I KNOW" IN THREE EASY STEPS!!



Count



MEASUREMENT

MAKING “I KNOW” HAPPEN

1, 2, 3:

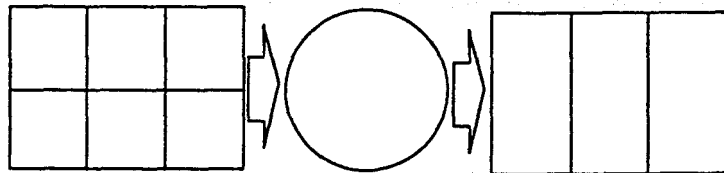
IDENTIFY

A) WHAT PROCESS IS TO BE MEASURED?

We want to measure a process that we 'think' may not be conforming to the requirements or that we 'think' offers an opportunity for improvement.

B) WHICH PART OF THE PROCESS? WHICH REQUIREMENTS?

We use our knowledge of the process to decide whether to measure the outputs, controlling inputs or material or information inputs.



C) WHY WAS THIS PART/REQUIREMENT CHOSEN?

Different processes need/benefit (from) certain types of measurements. Ask if this measurement will accurately reflect the performance of the process.

.COUNT

A) HOW WILL THE DATA BE COLLECTED?

Knowledge of the process will direct us to the correct method of data collection.

GENERIC TALLY SHEETS

SPECIFIC TALLY SHEETS

B) WHO IS RESPONSIBLE FOR COLLECTION?

For measurement to be **C**orrect **C**omplete and **C**onsistent (C, C, C) someone must be responsible for taking the measurement to a prescribed procedure.

The hidden process within a process!

• COMMUNICATE

A) WHAT KIND OF CHART AND HOW WILL IT BE LABELED?

Choose a chart that will most accurately depict I **KNOW**.

Line

Bar

Pie

Scatter

B) WHO -WILL BE RESPONSIBLE FOR RECORDING [THE DATA]?

C) WHO NEEDS TO BE ROUTINELY AWARE OF THE DATA?

Who are you communicating **TO**?

D) HOW WILL THE INFORMATION BE COMMUNICATED?

REPORTS

MEMOS

PRESENTATIONS

E) WHO IS RESPONSIBLE FOR TAKING ACTION?

Measurement is useless if it does **NOT** lead to action!

Do It Right The First Time

Measuring a work process does NOT ensure that nonconformances will be eliminated. Action must be taken on nonconformances so that the process can meet its requirements.

For QUALITY to happen,
everyone involved in the
process must be
committed to meet the
requirements the first
time, every time.

This is known as:

ZERO DEFECTS

A PERSONAL PERFORMANCE
STANDARD OF ZERO DEFECTS DRIVES
US TO CONTINUOUS IMPROVEMENT
BY MEASURING OUR PROCESSES.
MAKING NONCONFORMANCES VISIBLE
DIRECTS OUR ATTENTION TO WHERE
CORRECTIVE ACTION IS NECESSARY.

*MEASUREMENT TAKES THE GUESS WORK
OUT OF THE PROCESS*

“I MEASURE, THEREFORE I KNOW”

The third absolute of QUALITY:

THE PERFORMANCE STANDARD FOR QUALITY IS
ZERO DEFECTS

Measurement makes nonconformances visible so that we can start eliminating them forever. This brings about improvement.

Improvement requires that everyone adopt a “DIRFT” attitude. This relentless attitude is known as a *ZERO. DEFECTS ATTITUDE!!*

PROCESS: _____

MEASUREMENT COLLECTION

WEEK ENDING (SUNDAY): _____

| CATEGORY | MON | TUE | WED | THU | FRI | SAT | SUN | TOTAL |
|----------|-----|-----|-----|-----|-----|-----|-----|-------|
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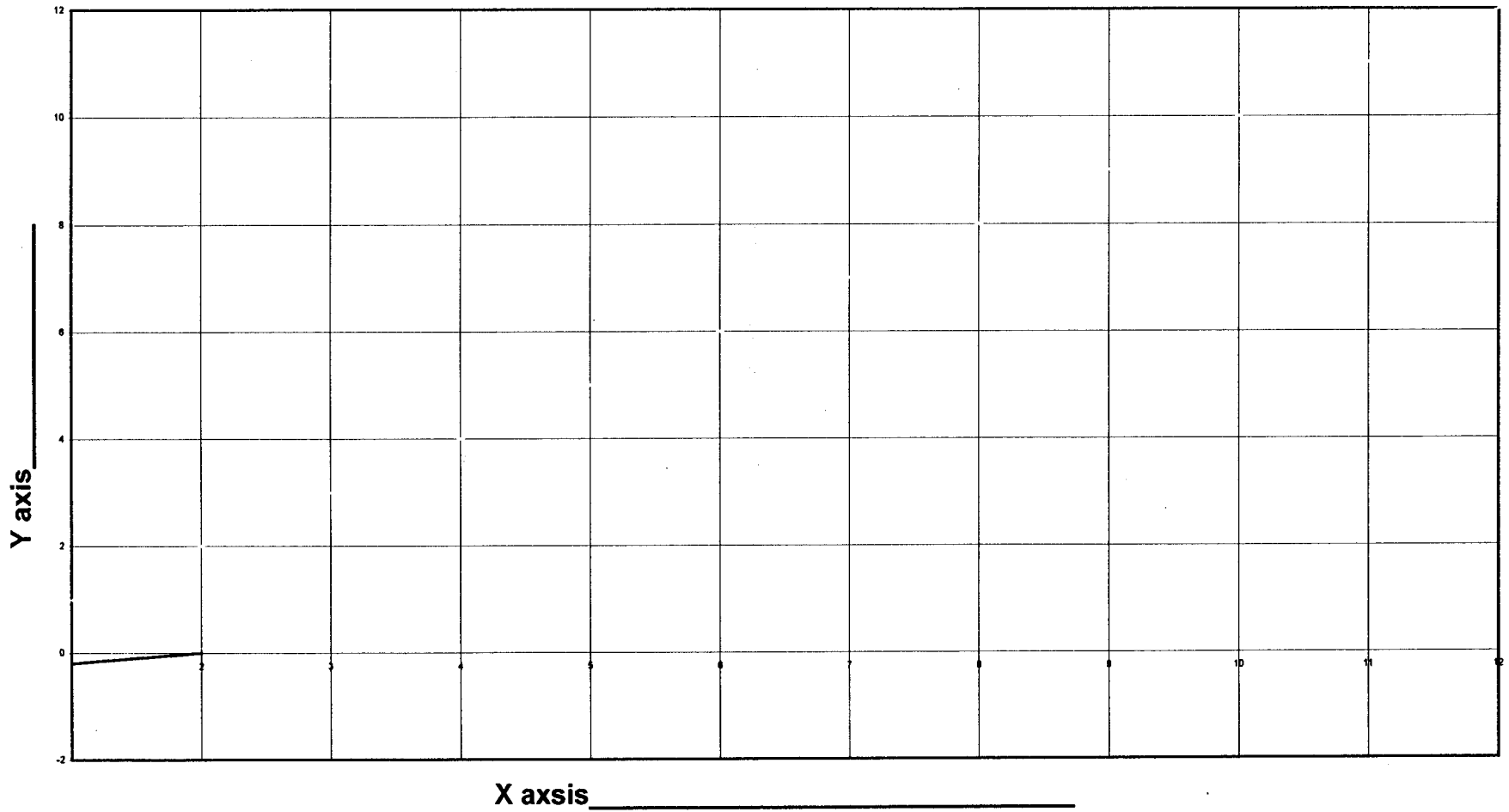
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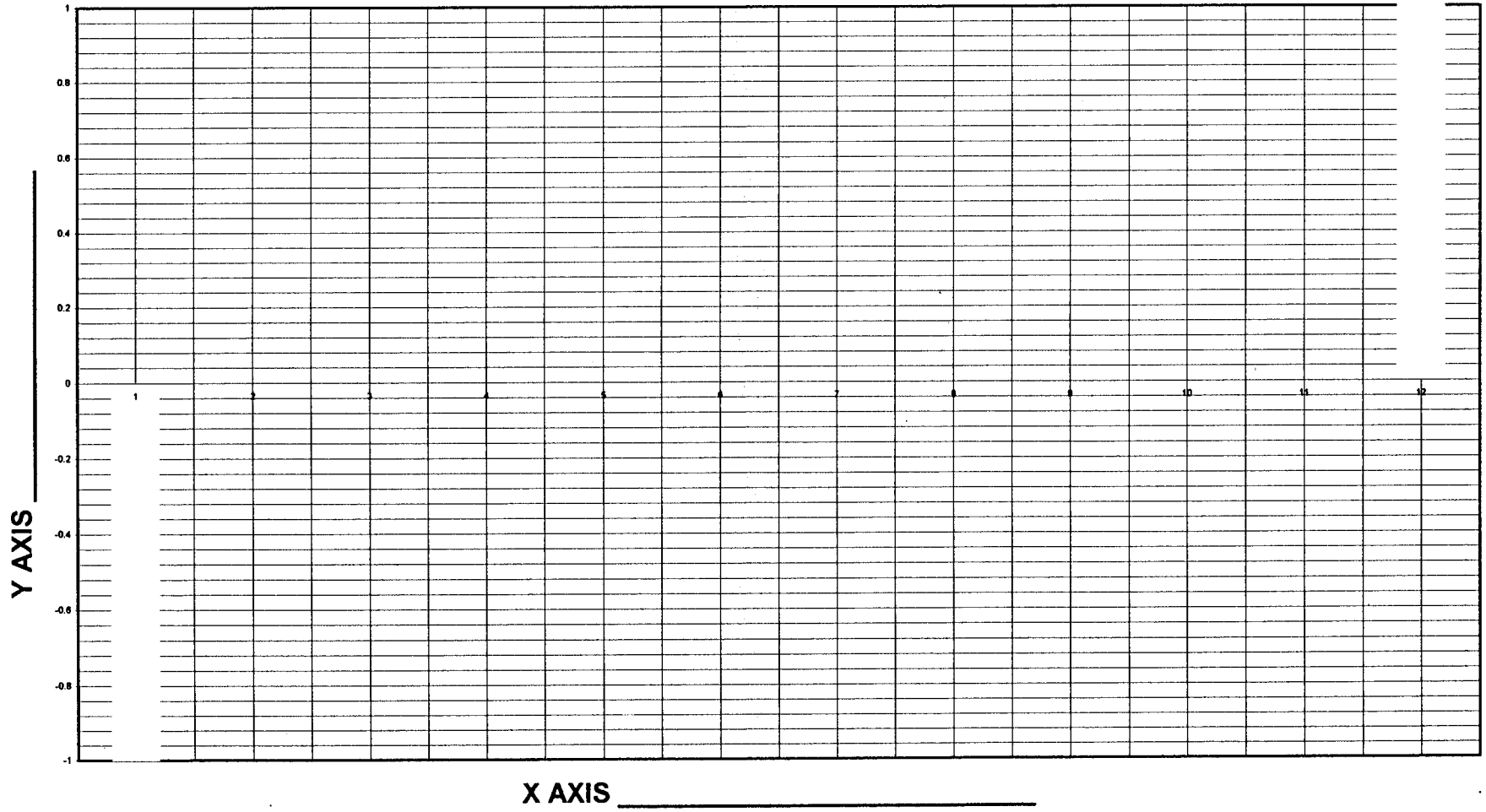
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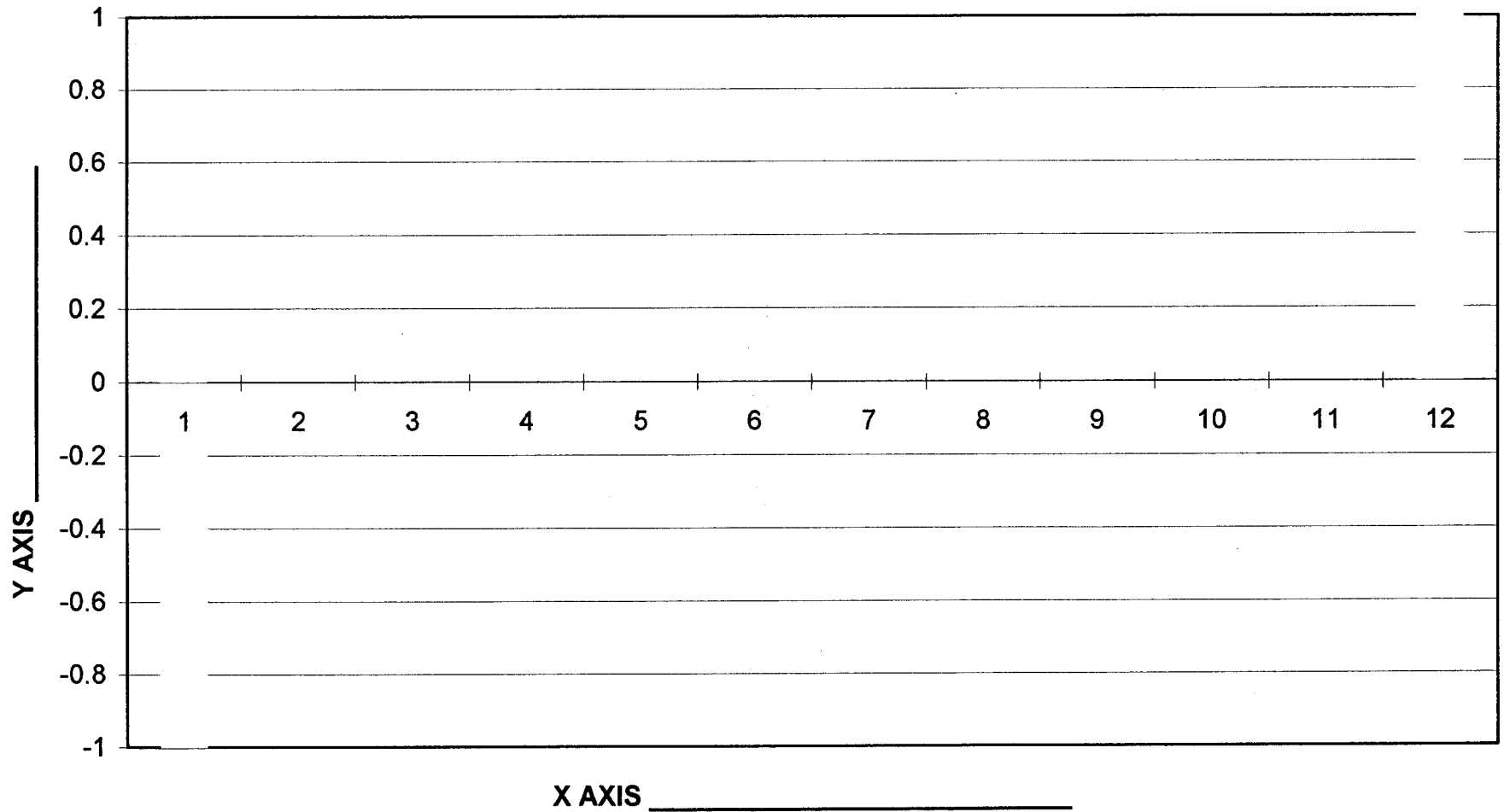
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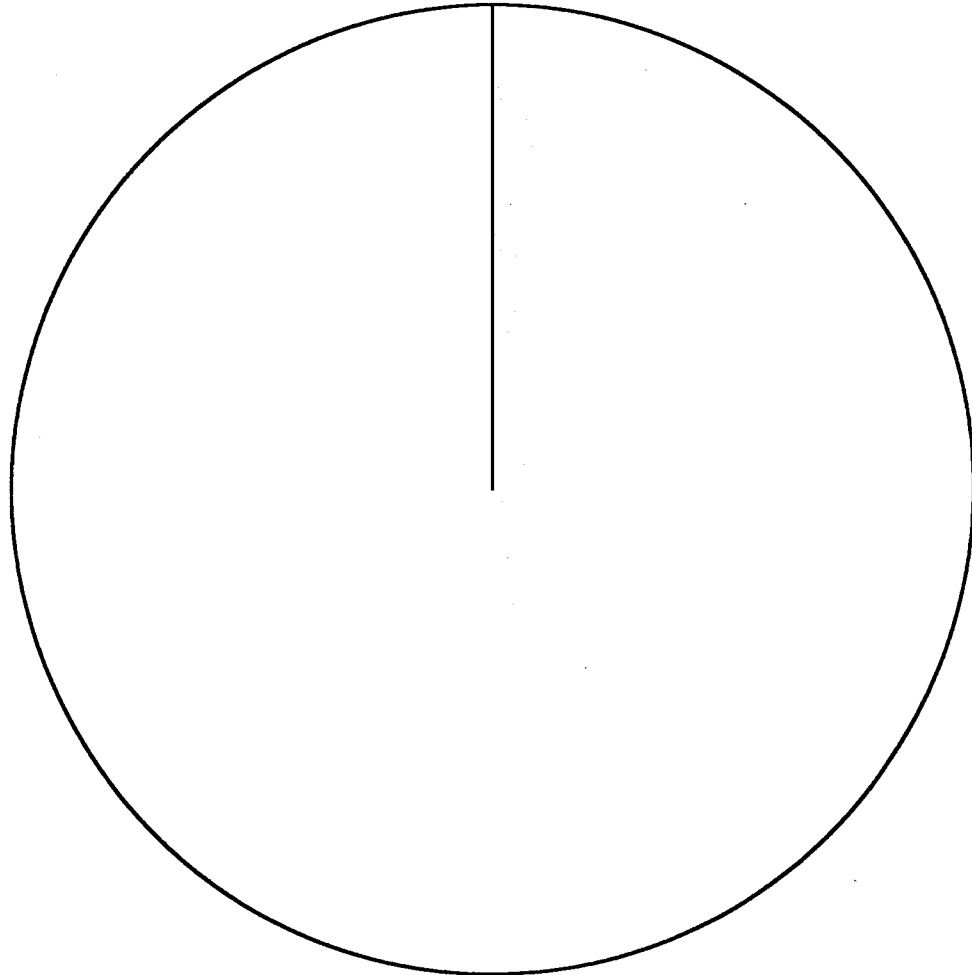
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