
Last day for W is Thursday
April 13

Last day of class is Tuesday
May 2

Final Exam Thursday May 4
12:30-2:30 PH 113

Test 3
A - 3
B - 2
C - 3
D - 5
F - 5

2 - 100's
\[ Z = \frac{X - \mu}{\sigma} \]

\[ 2.5 = \frac{42.1 - \mu}{2} \]

\[ 2 \cdot (2.5) = \left( \frac{42.1 - \mu}{2} \right)^2 \]

\[ 5 = \frac{42.1 - \mu}{2} \cdot \frac{-5 + \mu}{7} \]

\[ \mu = 37.1 \]
6.4

Word Problems

is means =
of means mult.

6) 10 times a decreased by 13

10x - 13
The sum of 8 and \( t \), divided by 2:

\[
\frac{8 + t}{2}
\]

Ex: The sum of 8, and \( t \) divided by 2:

\[
\frac{8 + \frac{t}{2}}{2}
\]
Six more than five times the number is seven times the number decreased by 18.

Let $n$ = the number

$5n + 6 = 7(n - 18)$

$5n + 6 = 7n - 126$

$-7n$ $-5n$

$6 = 2n - 126$

$+126$ $+126$

$132 = 2n$

$\sqrt{132} = n$

$n = 66$
6.7 Linear equations

Graph: \( y = 2x + 1 \)

One equation

2 variables, exponents on \( x \) and \( y \) are 1

Graph is a line.

Infinite number of ordered pairs \((x, y)\) that make the equation true.

\( y = 2x + 1 \)

<table>
<thead>
<tr>
<th>( x )</th>
<th>( y )</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>5</td>
<td>11</td>
</tr>
<tr>
<td>-1</td>
<td>-1</td>
</tr>
</tbody>
</table>

\( y = 2(0) + 1 \)
\( y = 2(1) + 1 \)
\( y = 2(5) + 1 \)
\( y = 2(-1) + 1 \)
The equation of the line is given by:

\[ y = 2x + 1 \]

The line passes through the following points:
- \((0, 1)\)
- \((-1, -1)\)
- \((1, 3)\)
- \((2, 5)\)
- \((3, 7)\)
**Intercepts**

**X-intercept** - where the line crosses the x-axis

Let \( y = 0 \), solve for \( x \)

**Y-intercept** - where the line crosses the y-axis

Let \( x = 0 \), solve for \( y \).
Ex Graph:

\[2x + 3y = 6\]

<table>
<thead>
<tr>
<th>x</th>
<th>y</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>0</td>
<td>3</td>
</tr>
</tbody>
</table>

Check \((0,2)\) a solution

\[2x + 3y = 6\]
\[2(0) + 3(2) = 6\]
\[0 + 6 = 6\]
\[6 = 6\]
$x = 4$
$x + 0.5y = 4$

<table>
<thead>
<tr>
<th>$x$</th>
<th>$y$</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>2</td>
</tr>
</tbody>
</table>

Vertical line
$y = 2$

$x + y = 2$

$x$-intercept: $0$

$y$-intercept: $2$

Horizontal line
Systems of Linear Equations

2 equations - 2 variables

20) Solve this system by the graph method.

0  x + y = 4
20) -x + y = 2

Find all ordered pairs (x, y) that make both equations true.

0  x + y = 4

<table>
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<th>y</th>
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</thead>
<tbody>
<tr>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>0</td>
</tr>
</tbody>
</table>

2  -x + y = 2

<table>
<thead>
<tr>
<th>x</th>
<th>y</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>-2</td>
<td>0</td>
</tr>
</tbody>
</table>

x = -2
Solution looks like \((1, 3)\)

Check:
1. \(x + y = 4\)
   
   \(1 + 3 = 4\)

2. \(-x + y = 2\)
   
   \(-1 + 3 = 2\)

Both equations are true.

Solution \((1, 3)\)
methods to solve a system of linear equations

1) Graph method \[7.1\]

2) Substitution method \[7.2\]

3) Addition Method (Elimination method) \[7.2\]

4) Calculator
Do @ on calculator

1. \( x + y = 4 \)
2. \( -x + y = 2 \)

Solve for \( y \):

1. \( x + y = 4 \)
   - \( -x \)
   \( x \)
   \( y = -x + 4 \)
2. \( -x + y = 2 \)
   + \( x \)
   + \( x \)
   \( y = x + 2 \)

Intersection:
\( x=1 \)
\( y=3 \)
In a plane 2 lines may:

- Intersect @ exactly 1 pt
- Parallel lines
- Same line

Infinite # sol. any pt that makes one true makes both true
Thursday

6.4 More assigned

6.5 Omit

6.7 More assigned

7.1 More assigned

(no slope)