

Writing Linear Equations in Standard Form

EQ: How do we write and solve equations in standard form?

Questions	Notes						
What is Standard form?	<p>Standard Form:</p> $Ax + By = C$						
How do I use Standard form to find the intercepts?	<p>Use Standard Form to:</p> <ul style="list-style-type: none"> • Find y-intercept ($x = 0$) • Find x-intercept ($y = 0$) • Graph using x and y intercepts <p>Ex. 1</p> $9x + 16y = 72$ <div style="display: flex; justify-content: space-around;"> <div style="text-align: left;"> <p>x-int:</p> $9x + 16(0) = 72$ $9x + 0 = 72$ $9x = 72$ $\frac{9x}{9} = \frac{72}{9}$ $x = 8$ </div> <table border="1" style="border-collapse: collapse; text-align: center;"> <tr> <td>x</td> <td>y</td> </tr> <tr> <td>0</td> <td>4.5</td> </tr> <tr> <td>8</td> <td>0</td> </tr> </table> <div style="text-align: right;"> <p>y-int:</p> $9(0) + 16y = 72$ $0 + 16y = 72$ $\frac{16y}{16} = \frac{72}{16}$ $y = 4.5$ </div> </div>	x	y	0	4.5	8	0
x	y						
0	4.5						
8	0						

Writing Standard Form Equations:

*Remember: The words "per" and "each" tell you to multiply.

Ex. 2

At the store, a bag of candy costs \$6 and a bag of seeds costs \$5, and you want to spend exactly \$61 at the store. Write an equation in standard form modeling the situation.

\$6 per candy bag ($x = \#$ of candy bags)
 \$5 per seed bag ($y = \#$ of seed bags)

Total \$61

$$6x + 5y = 61$$

You buy 6 bags of candy, how many bags of seeds can you buy?

$$\begin{array}{r}
 6(6) + 5y = 61 \\
 36 + 5y = 61 \\
 -36 \\
 \hline
 5y = 25 \\
 \frac{5y}{5} = \frac{25}{5} \\
 \hline
 y = 5
 \end{array}$$