

Section 4.3 Quick Graphs Using Intercepts

x-intercept

*** To find the x-intercept, Substitute $y=0$; then
Solve for x

y-intercept

*** To find the y-intercept, Substitute $x=0$; then
Solve for y .

EXAMPLES

1. Find the x-intercept and the y-intercept of the graph of $4x + 3y = 12$.

x-intercept: $(3, 0)$
 y-intercept: $(0, 4)$

$x=0$ $4(0) + 3y = 12$
 $3y = 12$
 $y = 4$

$y=0$ $4x + 3(0) = 12$
 $4x = 12$
 $x = 3$

2. Graph the following equations by finding their intercepts.

a) $4x - 6y = 12$
 x-intercept: $(3, 0)$
 y-intercept: $(0, -2)$

$y=0$
 $4x + 6(0) = 12$
 $4x = 12$
 $x = 3$

$x=0$
 $4(0) - 6y = 12$
 $-6y = 12$
 $y = -2$

b) $y = -2x + 8$
 x-intercept: $(4, 0)$
 y-intercept: $(0, 8)$

$y=0$
 $0 = -2x + 8$
 $-8 = -2x$
 $2 = x$
 $x = 4$

$x=0$
 $y = -2(0) + 8$
 $y = 8$

$s = students$ $a = adults$

3. Student Council is selling tickets to the fall carnival. They would like to sell \$2000 worth. If the cost of a student ticket is \$5 and the cost of an adult ticket is \$10, how many of each kind could they sell to reach their goal?

(Use a table of values to find three outcomes) $5s + 10a = 2000$



s = students a = adults

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(Use a table of values to find three outcomes) $5s + 10a = 2000$

	s	a
*	0	200
*	400	0
pick out 200	200	100

*	0	200
*	400	0
pick out 200	200	100

s	a
0	200
400	0
200	100

s	a
0	200
400	0
200	100

s	a
0	200
400	0
200	100

s	a
0	200
400	0
200	100

s	a
0	200
400	0
200	100

s	a
0	200
400	0
200	100

s	a
0	200
400	0
200	100