

Unit 2.2 Linear Functions

Not Functions
 x^2 or $x^3 = \frac{14}{x}$

Ex #1 $f(x) = 8 - \frac{3}{4}x$

Ex #2: $f(x) = \frac{7}{x}$

$y = mx + b$ Linear

not function
Linear

$y = -\frac{3}{4}x + 8$ function

Ex #3: $g(x, y) = 3xy - 4$
Not Linear Function

a) $f(x) = \frac{5}{x+6}$ Not Linear Function

STANDARD FORM

$ax + by = c$

Ex #4 $-\frac{3}{10}x = \frac{8}{5}y - 15$
 $-8y - 8y$

b) $g(x) = -\frac{3}{2}x + k$
Linear function

c) $3x + 4y = 10$
Linear function

4a) $2y = 4x + 5$
 $-4x - 4x$

$(-10) \cdot \frac{3}{10}x - 8y = -15$
 $3x + 8y = 15$

$(-1) \cdot -4x + 2y = 5$
 $4x - 2y = -5$

Ex #5) $2x - 3y + 8 = 0$
 $-8 - 8$

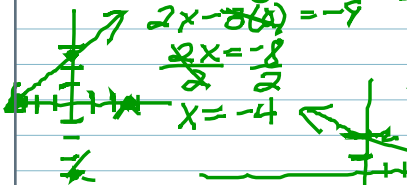
4B) $3x - 6y - 7 = 0$
 $+9 + 9$

$(\frac{2}{3}) \cdot 3x - 6y = 9$
 $x - 2y = 3$

x	y	$2x - 3y = -8$
0	$\frac{8}{3}$	$-3y = -8$
-4	0	$2x = -8$

$y = \frac{8}{3} = 2\frac{2}{3}$

5b) $2x + 5y = 10$
 $2x + 5y - 10 = 0$
 $+10 +10$



x	y
0	2
5	0

$2x + 5y = 10$
 $2x + 5y = 10$
 $2x = 10$

$y = 2$ y-intercept
 $x = 5$ x-intercept

Unit 2.2 Linear Functions

Not Functions
 x^2 or x^3 $\frac{4}{x}$

Ex#1 $f(x) = 8 - \frac{3}{4}x$

Ex#2: $f(x) = \frac{z}{x}$

$y = mx + b$ Linear function

not function
Linear

$y = -\frac{3}{4}x + 8$ function

Ex#3: $g(x,y) = 3xy - 4$
Not Linear Function

a) $f(x) = \frac{5}{x+6}$ Not Linear Function

b) $g(x) = -\frac{3}{2}x + \frac{1}{3}$
Linear function

c) $3x + 4y = 10$
Linear function

4a) $2y = 4x + 5$
 $-4x \quad -4x$

STANDARD FORM

$ax + by = c$

Ex#4 $-\frac{3}{10}x = \frac{8}{y} - 15$
 $-8y \quad -8y$

$(-10) \cdot -\frac{3}{10}x - 8y = -15$

$(-1) \cdot -4x + 2y = 5$

$3x + 80y = 150$

$4x - 2y = -5$

$ax + by = c$

4B) $3x - 6y - 7 = 0$
 $+9 \quad +9$

Ex#5) $2x - 3y + 8 = 0$
 $-18 \quad -8$

$(\frac{1}{3}) \cdot 3x - 6y = 9$
 $x - 2y = 3$

x	y
0	8/3
-4	0

$2x - 3y = -8$

$2x - 3y = -8$

$2x - 3y = -8$

$2x - 3y = -8$

$2x - 3y = -8$

$2x - 3y = -8$

$2x - 3y = -8$

$2x - 3y = -8$

$2x - 3y = -8$

$2x - 3y = -8$

$2x - 3y = -8$

$2x - 3y = -8$

x	y
0	2
5	0

5b) $2x + 5y = 10$

$2x + 5y - 10 = 0$

$2x + 5y - 10 = 0$

$2x + 5y - 10 = 0$

$2x + 5y - 10 = 0$

$2x + 5y - 10 = 0$

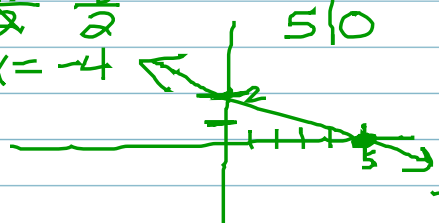
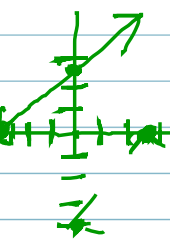
$2x + 5y - 10 = 0$

$2x + 5y - 10 = 0$

$2x + 5y - 10 = 0$

$2x + 5y - 10 = 0$

$2x + 5y - 10 = 0$



$y = 2$ y-intercept

$x = 5$ x-intercept