

# Special Study of Linear & Quadratic Polynomials

Chapter 6

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## What do you already know?

- Linear      • Quadratic

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<b>Linear</b>	<b>Quadratic</b>
• $L(x) = ax + b$	• $Q(x) = ax^2 + bx + c$
what happens if...	what happens if...
$b > 0$	$c > 0$
$b < 0$	$c < 0$
$b = 0$	$c = 0$
$a > 0$	$a > 0$
$a < 0$	$a < 0$
$-1 < a < 1$ ( $a \neq 0$ )	$a > 0$ or $a < 0$
$a = 0$	$a = 0$
$a$ is undefined	$a$ is undefined

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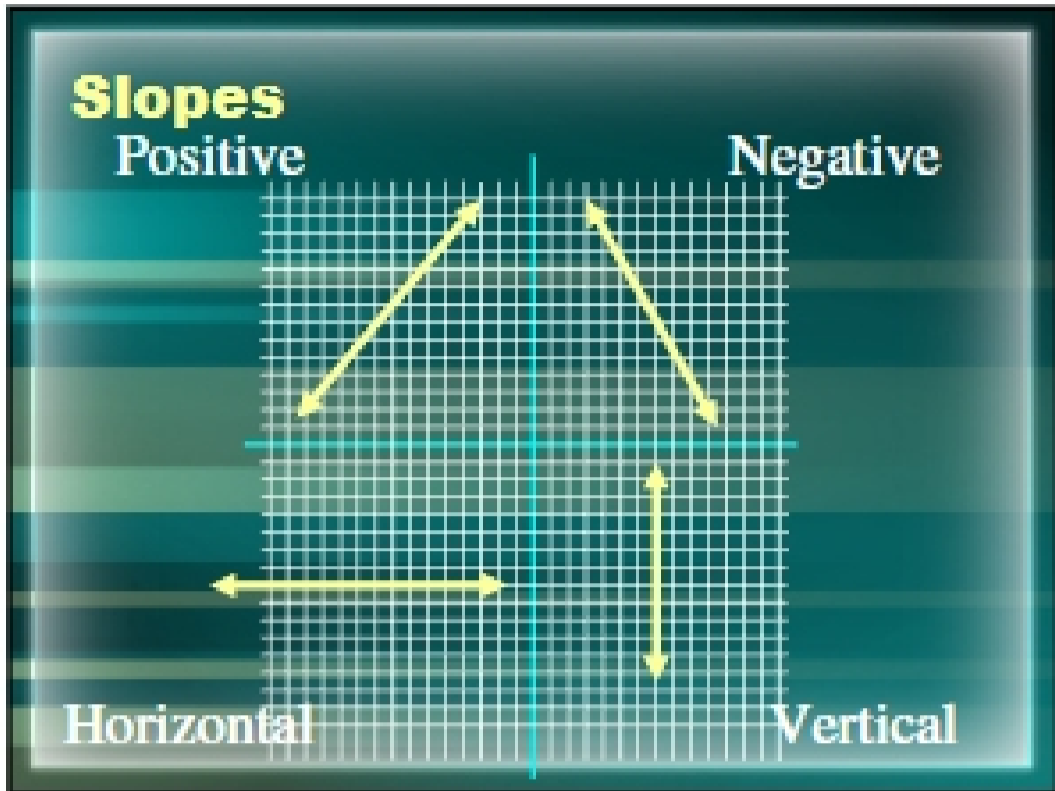
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**Equation Forms**

- Slope Intercept  $y = mx + b$
- Standard  $Ax + By = C$
- Horizontal  $y = b$
- Vertical  $x = a$

This brings us back to the concept: a linear equation has a degree of 1

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**Given any linear equation, one should be able to identify...**

**$y = -3x - 7$**

- The Equation Form 1. Slope intercept
- Direction 2. Falling
- Slope 3. -3
- y-intercept 4. -7
- x-intercept 5.  $-7/(-3) = -7/3$
- Parallel Slope 6. -3
- Perpendicular Slope 7. -7

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