

Linear Functions

Student	Equation
Esther	$y = x(x - 4)$
Hunter	$y = 45x - 33$
Riley	$y = 3x + 1,300$
Sydney	$y = -50 + \frac{3}{4}x$

Which student writes a nonlinear equation?

Student	Response
Adeline	$y = \frac{1}{x}$
Chase	$y = 0$
Mae	$y = \sqrt{x}$
Saul	$y = x^2$

Which student's response represents a linear function?

14. Which equations define linear functions? Select all that apply.

- Ⓐ $A = \pi r^2$
- Ⓑ $C = 2\pi r$
- Ⓒ $8x - y = 4$
- Ⓓ $y = -2x + 5$
- Ⓔ $y + 9 = 3x^2 + 6x$
- Ⓕ $y = 2x(x + 7) - 5$

14. Directions: Determine if each function is linear or nonlinear. Select the correct cell in each row.

Function	Linear	Nonlinear
$y = x^2 - 4$	<input type="radio"/>	<input type="radio"/>
$y = -2x + 1$	<input type="radio"/>	<input type="radio"/>
$y = \frac{3}{x}$	<input type="radio"/>	<input type="radio"/>
$y = \frac{x}{3}$	<input type="radio"/>	<input type="radio"/>

Which function is NOT linear?

- A $y = x + x^{-1}$
- B $y = \sqrt{3}x$
- C $y = \frac{1}{2}x$
- D $y = 2x$

Which function is linear?

- A $y = \frac{1}{x} + 7$
- B $y = x^2 - 2$
- C $y = 7^x - 1$
- D $y = \frac{2x}{3} - 7$

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