



Linear Equations and tangent Lines

Slope and
Linear
equations

Parallel Lines

Perpendicular
Lines

Domain and
Range

Tangent Line

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Math Review
Class ♠ Project

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Slope and Linear equations for 100.

Determine the slope and y -intercept of the graph of the equation

$$2x + y = 4$$

$$\text{Slope} = 2 \quad y\text{-intercept} = (0, 4)$$

$$\text{Slope} = -2 \quad y\text{-intercept} = (4, 0)$$

$$\text{Slope} = 4 \quad y\text{-intercept} = (0, 2)$$

$$\text{Slope} = -2 \quad y\text{-intercept} = (0, 4)$$



Slope and Linear equations for 200.

Determine the slope and y - intercept of the graph of the equation

$$y = -3$$

Slope = 0 y -intercept (0,-3)

Slope = -3 y - intercept (0,0)

Slope undefined y - intercept (0 , -3)

Slope = 0 no y - intercept



Slope and Linear equations for 300.

Determine the slope and the x -intercept of the graph of the equation

$$x = -5$$

Slope = -5 x -intercept (0,1)

Slope = 1 x - intercept (0,-5)

Slope undefined no x - intercept

Slope undefined x - intercept (-5,0)



Slope and Linear equations for 400.

Find the equation of the straight line given that the y -intercept is $(0, -6)$ and that the slope is $1/2$.

$$\frac{1}{2}x + y = -6$$

$$-\frac{1}{2}x + y = -6$$

$$x + \frac{1}{2}y = -6$$

$$-\frac{1}{2}x = y + 6$$

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Parallel Lines for 100.

Determine if the two equations represent lines that are parallel, perpendicular or neither

$$10x + 2y = 12$$

$$5x + y = 2$$

parallel

perpendicular

neither



Parallel Lines for 200.

Write an equation of the line that passing through (5 , 0) and is parallel to the line

$$y = -3x + 7$$

$$y = -3x + 5$$

$$y = \frac{1}{3}x + 5$$

$$y = -3x + 15$$

$$y = \frac{1}{3}x - \frac{5}{3}$$



Parallel Lines for 300.

Find an equation of the line that passing through (1 , 2) and is parallel to $y = 5$

$$y = 5x - 3$$

$$y - 2 = 0$$

$$5x - y = 2$$

$$y = -2$$

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Parallel Lines for 400.

Determine whether the lines are parallel Perpendicular or neither

$$y = 4x - 2$$

$$-4x + y = 5$$

parallel

perpendicular

neither

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Perpendicular Lines for 100.

Write an equation of the line that passing through(5 , 0) and is perpendicular to the line whose equation is

$$y = -3x + 7$$

$$y = -3x + 5$$

$$y = \frac{1}{3}x + 5$$

$$y = -3x + 15$$

$$y = \frac{1}{3}x - \frac{5}{3}$$

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Perpendicular Lines for 200.

Find an equation of each line passing through $(-2, -3)$ and perpendicular to the y - axis

$$x = -2$$

$$y = -3$$

$$x + y = -3$$

$$x = -3$$

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Perpendicular Lines for 300.

Find an equation for the line that passing through (0, 12) and perpendicular to the x - axis

$$x = 0$$

$$x = 12$$

$$y = x + 12$$

$$y = -\frac{1}{12}x$$



Perpendicular Lines for 400.

Find an equation of the line perpendicular to $x = -3$ passing through $(-2, 5)$

$$x = -2$$

$$y = 5x$$

$$y + 5 = 0$$

$$y = 5$$



Domain and Range for 100.

Find the domain and range of the function $y = 2$

$$\text{Domain} = (-\infty, \infty) \quad \text{Range} = \{2\}$$

$$\text{Domain} = \{2\} \quad \text{Range} = (-\infty, \infty)$$

$$\text{Domain} = (-\infty, \infty) \quad \text{Range} = (2, \infty)$$

$$\text{Domain} = (-\infty, \infty) \quad \text{Range} = (-\infty, 2)$$



Domain and Range for 200.

Find the domain and the range of the equation

$$2x + y = 5$$

$$\text{Domain} = (-\infty, \infty) \quad \text{Range} = (-\infty, \infty)$$

$$\text{Domain} = \{2\} \quad \text{Range} = (-\infty, 5)$$

$$\text{Domain} = (5, \infty) \quad \text{Range} = (2, \infty)$$

$$\text{Domain} = (-\infty, \infty) \quad \text{Range} = (-\infty, 2)$$



Domain and Range for 300.

Find the domain and the range of the equation

$$y = |x|$$

$$\text{Domain} = \{0\} \quad \text{Range} = (-\infty, \infty)$$

$$\text{Domain} = (-\infty, \infty) \quad \text{Range} = (-\infty, \infty)$$

$$\text{Domain} = (-\infty, \infty) \quad \text{Range} = (0, \infty)$$

$$\text{Domain} = (-\infty, \infty) \quad \text{Range} = [0, \infty)$$



Domain and Range for 400.

Find the domain and the range of the equation

$$\frac{y}{5} = \frac{x - 3}{5}$$

$$\text{Domain} = (-\infty, \infty) \quad \text{Range} = (-\infty, \infty)$$

$$\text{Domain} = (5, \infty) \quad \text{Range} = (-\infty, \infty)$$

$$\text{Domain} = (-\infty, \infty) \quad \text{Range} = (5, \infty)$$

$$\text{Domain} = \{5\} \quad \text{Range} = (-\infty, \infty)$$



Tangent Line for 100.

Find the equation of the tangent Line to $F(x) = x^2$
at $x = 2$

$$y = 4$$

$$y = 4x - 4$$

$$y = 2x$$

$$y = 4x^2 - 14$$

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Tangent Line for 200.

Find the equation of the tangent line to $F(x) = \tan x$
at $x = 0$

$$y = -x$$

$$y = x$$

$$y = 0$$

$$y - x = 1$$



Tangent Line for 300.

How many lines can be drawn from a point inside a circle to the circle?

1

2

∞

0



Tangent Line for 400.

Find all points on the graph $y = x^3 - 3x$ where the tangent line is parallel to the x - axis

(1 , -1)

(2,-2)

(1, -1) , (2 , -2)

(-1 , 2) , (1 , 2)