



DEPARTMENT OF EDUCATION

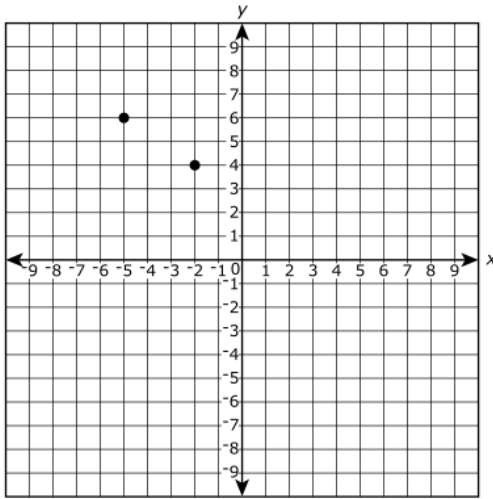
Dr. Jennifer McCormick
Superintendent of Public Instruction

Working Together for Student Success

ISTEP+ Grade 10 Released Items

Mathematics Part 1

The coordinate grid shows two points of a function.



Part A

If the function is linear, name the coordinates of the x -intercept of the function. Use words, numbers, and/or symbols to explain your answer.



- [▶ Math symbols](#)
- [▶ Relations](#)
- [▶ Geometry](#)
- [▶ Groups](#)
- [▶ Trigonometry](#)
- [▶ Statistics](#)
- [▶ Greek](#)

Answer (,)

Part B

If the function is quadratic and has a vertex at the point $(-5, 6)$, what are the coordinates of a third point on the parabola? Use words, numbers, and/or symbols to explain how you found your answer.

Show All Work



- [▶ Math symbols](#)
- [▶ Relations](#)
- [▶ Geometry](#)
- [▶ Groups](#)
- [▶ Trigonometry](#)
- [▶ Statistics](#)
- [▶ Greek](#)

Answer (,)

Use the information provided to answer Part A and Part B.

A ball is dropped from a height of 100 feet. The height of the ball can be determined using the equation $h = -16t^2 + 100$, where h is the height, in feet, and t is the time, in seconds.

Part A

What is the value of h if $t = 1$? Show the process for determining the value of h .

Show All Work



- ▶ Math symbols
- ▶ Relations
- ▶ Geometry
- ▶ Groups
- ▶ Trigonometry
- ▶ Statistics
- ▶ Greek

Part B

If $h = 0$, find all the values of t and determine whether the values are reasonable for this situation.

Show All Work



- ▶ Math symbols
- ▶ Relations
- ▶ Geometry
- ▶ Groups
- ▶ Trigonometry
- ▶ Statistics
- ▶ Greek

A rectangle with an area of 104 square inches has a width that is 5 inches less than its length.

Part A

Write an equation representing the area of the rectangle. Use x to represent the length of the rectangle. Solve your equation for all values of x .

Show All Work



- [▶ Math symbols](#)
- [▶ Relations](#)
- [▶ Geometry](#)
- [▶ Groups](#)
- [▶ Trigonometry](#)
- [▶ Statistics](#)
- [▶ Greek](#)

Part B

Use your solution to the equation to identify the width and length of the rectangle. Explain how you determined which value(s) of x to use.

Show All Work



- [▶ Math symbols](#)
- [▶ Relations](#)
- [▶ Geometry](#)
- [▶ Groups](#)
- [▶ Trigonometry](#)
- [▶ Statistics](#)
- [▶ Greek](#)