

## Using graphs to solve linear equations

### DO NOW

Solve this equation algebraically.

$$\begin{array}{r} 2x + 3 = 11 \\ -3 \quad -3 \end{array}$$

$$\frac{2x}{2} = \frac{8}{2}$$

$$x = 4$$

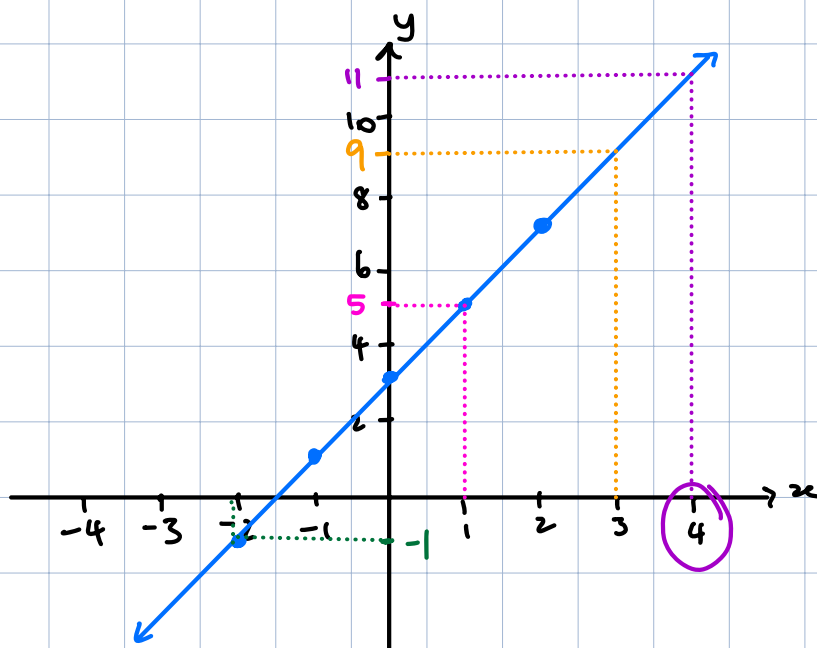
Sketch  $y = 2x + 3$

x	-2	-1	0	1	2
y	-1	1	3	5	7

$$2x + 3 = 11$$

↑  
y-value

$$x = 4$$



Use the graph to solve the following equations:

a)  $2x + 3 = 5$      $x = 1$

b)  $2x + 3 = -1$      $x = -2$

c)  $2x + 3 = 9$      $x = 3$

- we know that each point on the line is a solution to the equation
  - ↳ To solve a linear equation, we can determine the  $x$ -value that corresponds to the required  $y$ -value on the line