

# Real World Linear Equations Worksheet and Activity

Answers with pictures @

[http://www.mathwarehouse.com/algebra/linear\\_equation/real-world-application.html](http://www.mathwarehouse.com/algebra/linear_equation/real-world-application.html)

## Resources on Linear Equations

[Slope Intercept Form](http://www.mathwarehouse.com/algebra/linear_equation/slope-intercept-form.php) of a line:

[http://www.mathwarehouse.com/algebra/linear\\_equation/slope-intercept-form.php](http://www.mathwarehouse.com/algebra/linear_equation/slope-intercept-form.php)

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More worksheets and activities available at

<http://www.mathwarehouse.com/classroom/free-math-printable-worksheets.php>

Play Math Games at [TheMathGames.com](http://TheMathGames.com)



### Warm Up

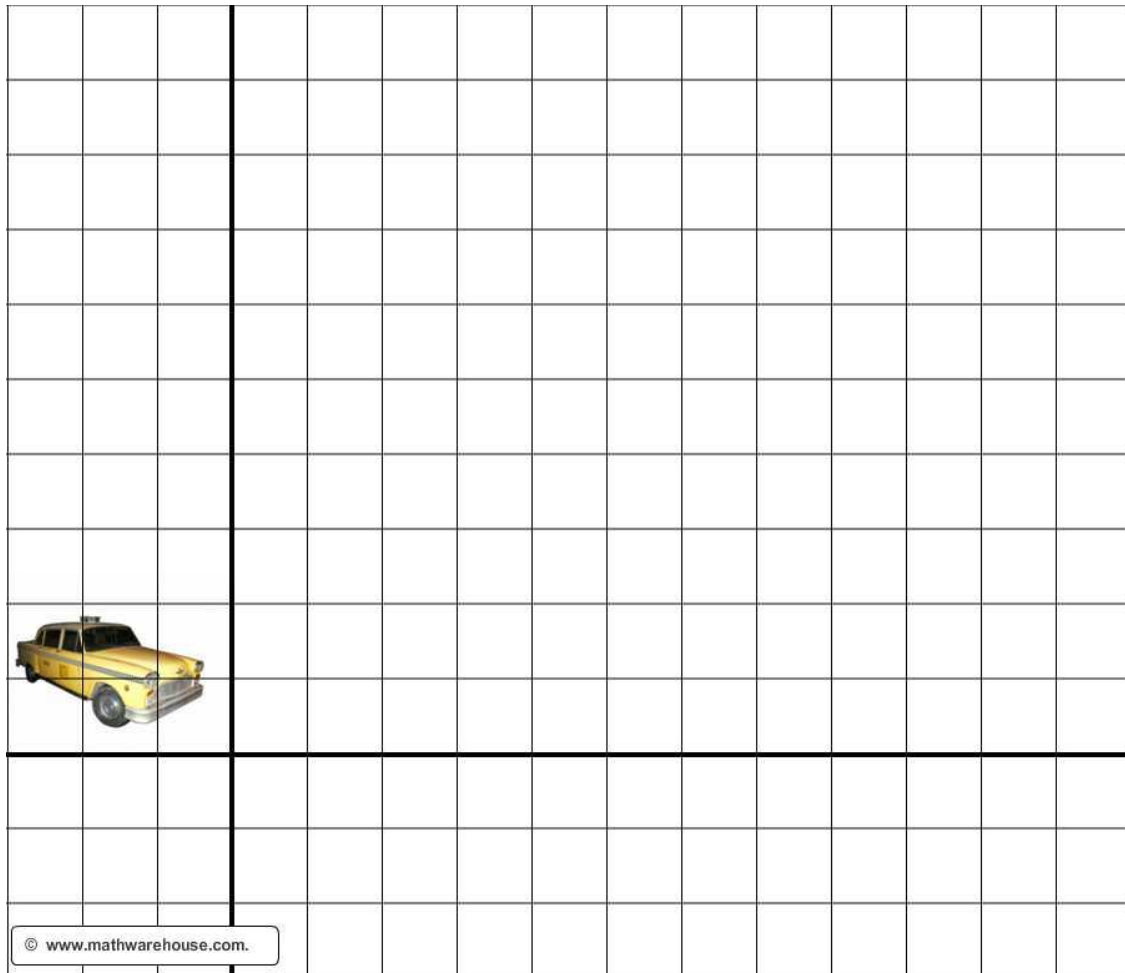
What is the slope and y intercept of the line below?

$$Y = 2x + 3$$

### Model Problem 1

A cab company charges a \$3 boarding rate in addition to its meter which is \$2 for every mile.

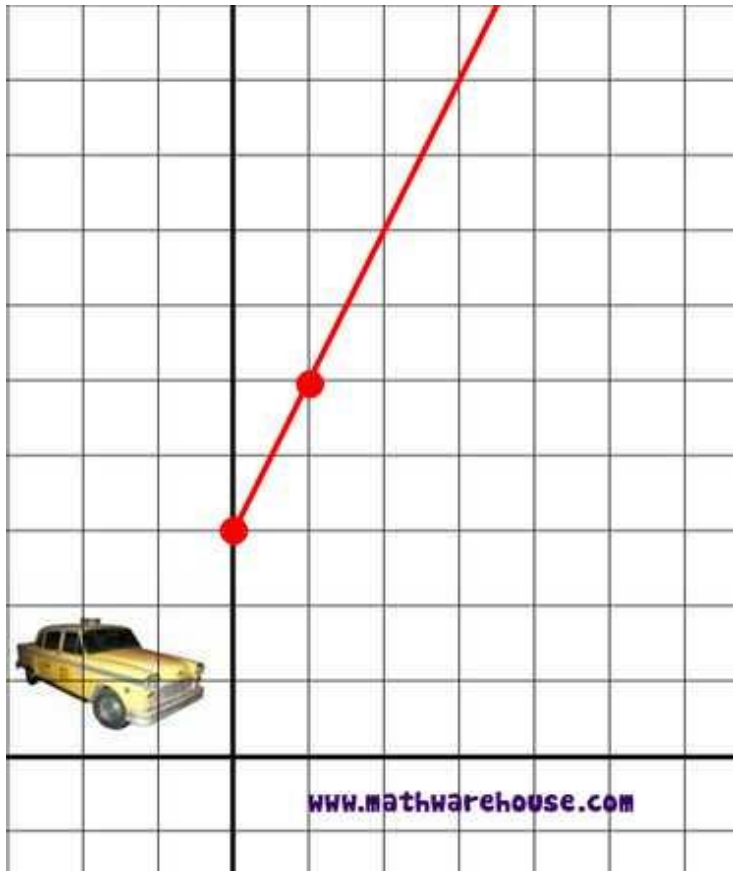
- A) How much does it cost to ride in this cab for 1 minute?
- B) For 2 minutes? \_\_\_\_\_
- C) What equation represents the rate of this company?
- D) Graph the equation that represents the rate of this cab company?



**Model Problem 1****ANSWER**

A cab company charges a \$3 boarding rate in addition to its meter which is \$2 for every mile.

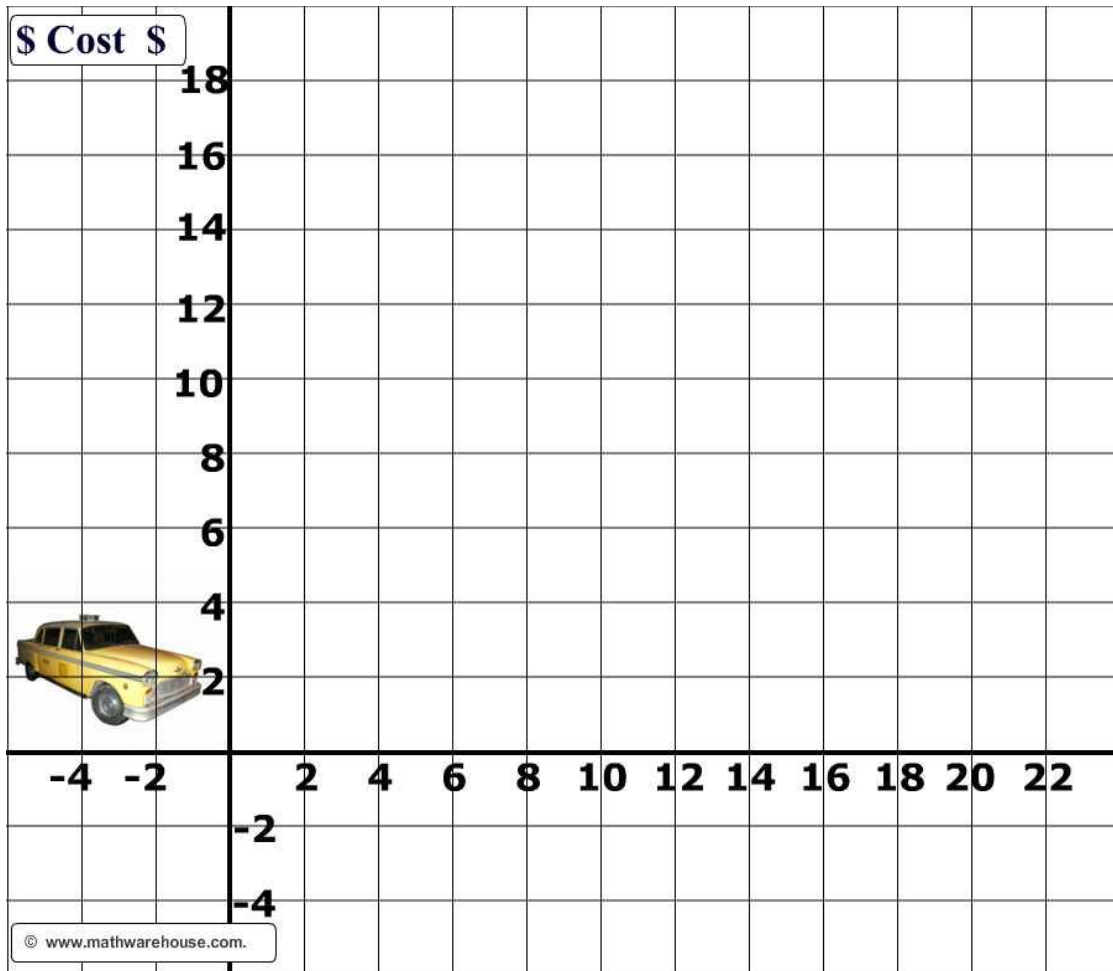
Equation  $y = 2x + 3$



### Model Problem 2

A cab company charges a \$5 boarding rate in addition to its meter which is \$3 for every mile

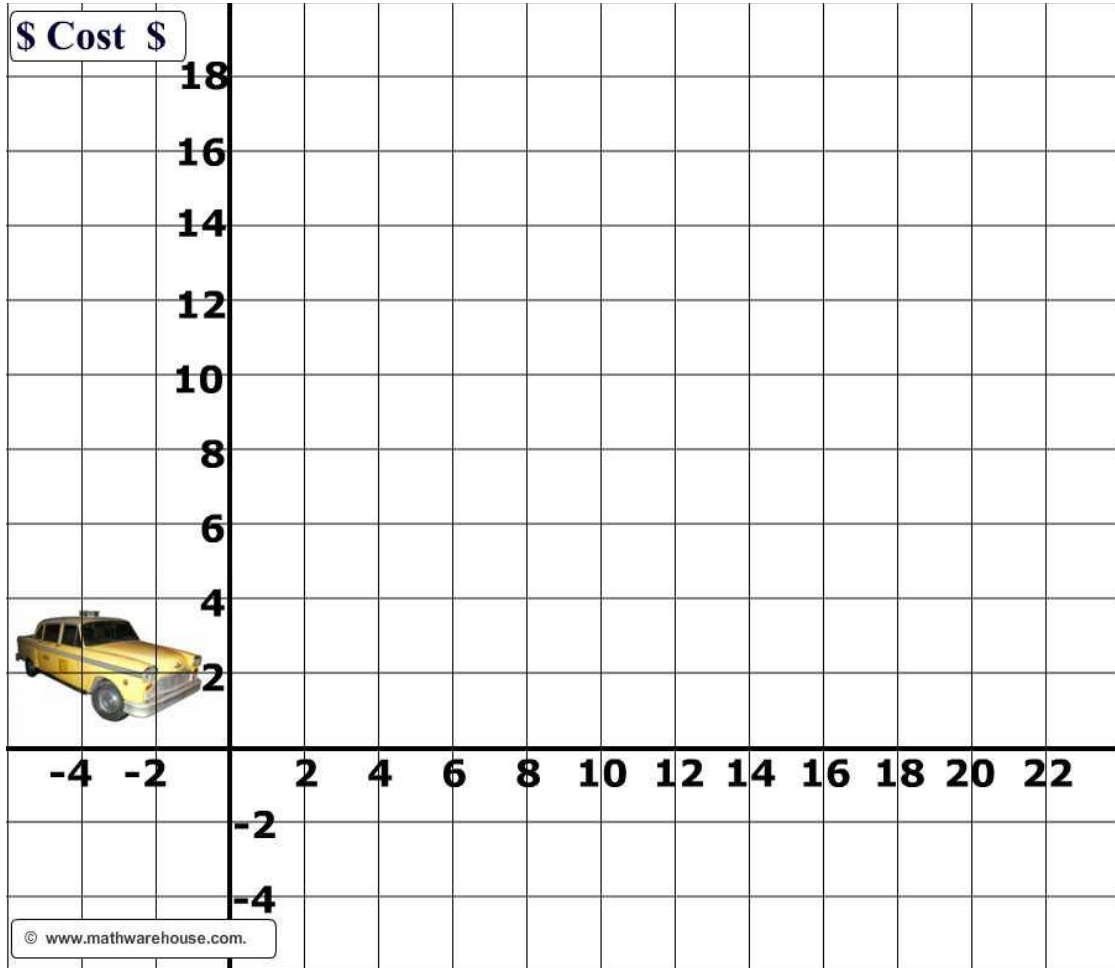
- A) What equation represents the rate of this company?
- B) Graph the equation that represents the rate of this cab company?



### Practice Problems

**Problem 3)** A cab company charges a \$3 boarding rate in addition to its meter which is \$  $\frac{1}{2}$  for every mile

- A) What equation represents the rate of this company?
- B) Graph the equation that represents the rate of this cab company?



Use graph paper for next few equations.  
(answers to problems at [mathwarehouse.com/lines3](http://mathwarehouse.com/lines3))

**Problem 4** ) A cab company charges a \$4 boarding rate in addition to its meter which is \$  $\frac{3}{4}$  a dollar for every mile

- A) What equation represents the rate of this company?
- B) Graph the equation that represents the rate of this cab company?

**Problem 5** ) A cab company does not charge a boarding fee but then has a meter of \$4 an hour.

- A) What equation represents the rate of this company?
- B) Graph the equation that represents the rate of this cab company?

**Problem 6** ) A cab charges a \$1 boarding rate in addition to its meter which is \$  $\frac{1}{3}$  of a dollar for every mile

- A) What equation represents the rate of this company?
- B) Graph the equation that represents the rate of this cab company?

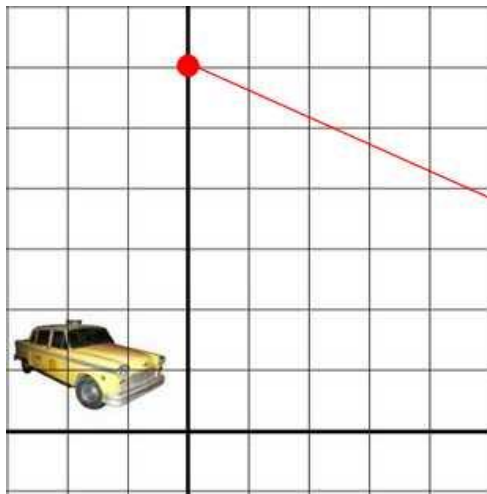
**Bonus Challenge Problem**

Explain why the graph below would never represent the rate that a cab company charged?

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## Activity

## Cab Company

**Task #1)** Create a name for your cab company.

**Task #2)** Decide upon a **metered** fare. This means that your cab company needs to charge a certain amount by the minute/hour or by the mile.

Examples

- \$1 for every 2 miles
- \$1 for every 5 minutes

**Task #3)** Decide upon a flat fee, 'boarding rate'. This is a small charge that gets automatically billed to the customer upon stepping into the cab. Often, the flat fee is about \$2.

**Task #4)** Create a graph like the one below for your cab company and make sure that you label your flat fee as well as your rate.

**Task #5)** Create a logo for your company, a slogan and some kind of picture or icon.



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