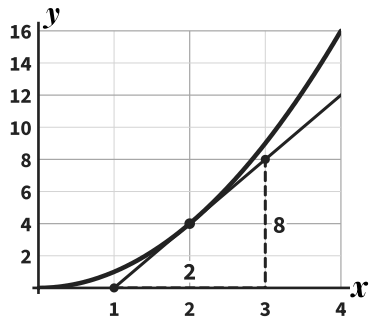
Gradient of a curve

1

The tangent at $x = 2$ is drawn.
Find the gradient of the curve at $x = 2$.

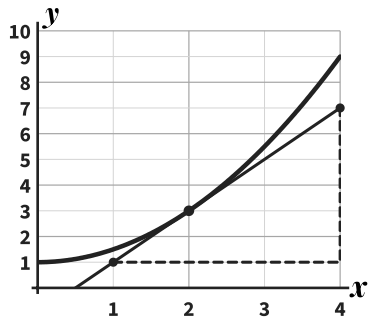


$8 \div 2 =$

Answer _____

2

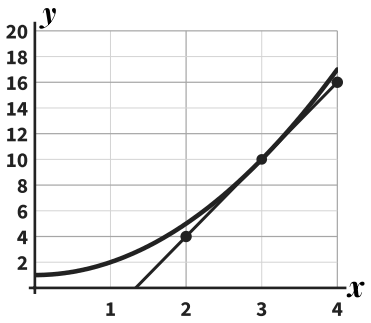
The tangent at $x = 2$ is drawn.
Find the gradient of the curve at $x = 2$.



Answer _____

3

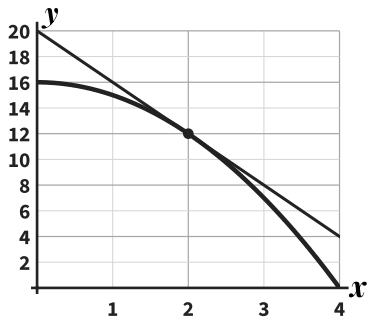
The tangent at $x = 3$ is drawn.
Find the gradient of the curve at $x = 3$.



Answer _____

4 *Notice the change!*

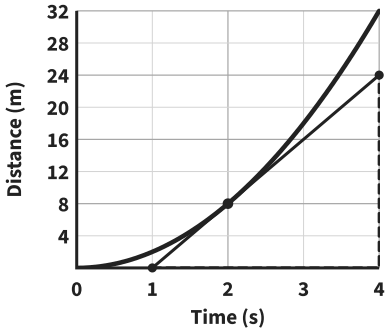
The tangent at $x = 2$ is drawn.
Find the gradient of the curve at $x = 2$.



Answer _____

5

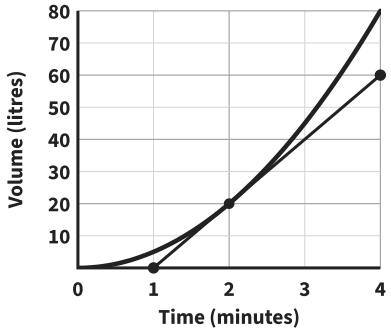
The tangent at 2 seconds is drawn.
Find the speed at 2 seconds.



Speed _____ m/s

6

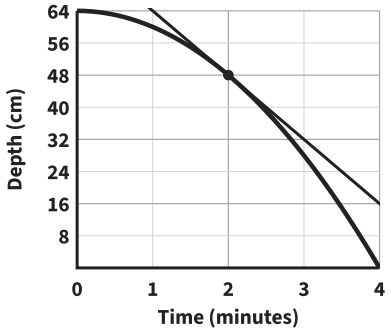
Water fills a tank. Find how fast it is filling at 2 minutes.



Answer _____ litres per minute

7

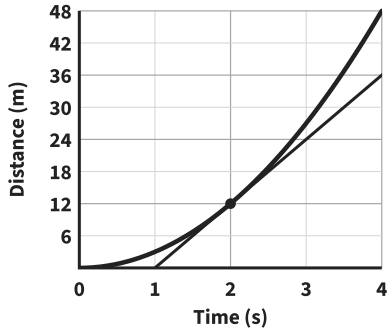
A sink empties. Find how fast the depth is falling at 2 minutes.



Answer _____ cm per minute

8

Sam says the speed at 2 seconds is $12 \div 2 = 6$ m/s. Explain his mistake and find the speed.

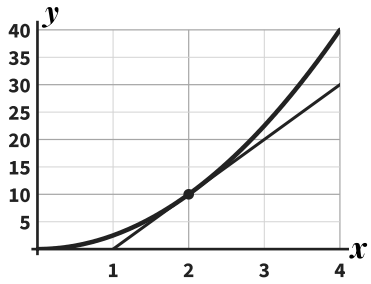


Speed _____ m/s

Gradient of a curve *further practice*

9

The tangent at $x = 2$ is drawn.
Find the gradient of the curve at $x = 2$.



Gradient _____

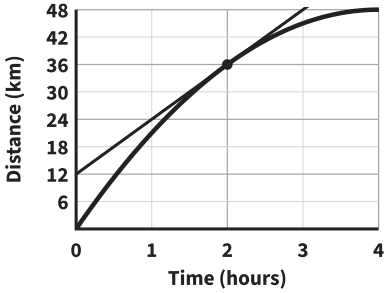
10

A tangent to a curve goes through (1, 4) and (4, 19). Find the gradient of the curve where the tangent touches it.

Gradient _____

11

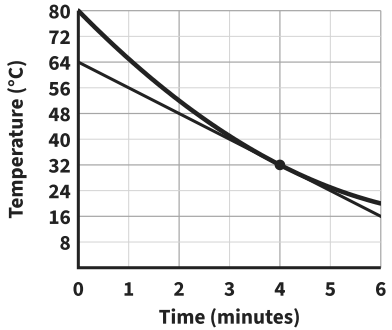
A cyclist slows down. Find her speed at 2 hours.



Speed _____

12

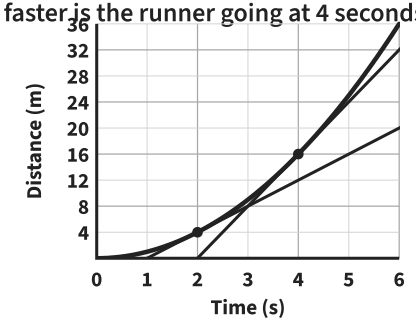
A cup of tea cools. Find how fast its temperature is falling at 4 minutes.



Answer _____

13

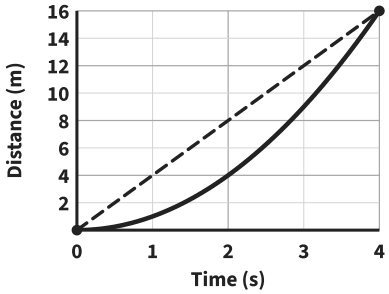
The tangents at 2 seconds and 4 seconds are drawn. How many times faster is the runner going at 4 seconds?



Answer _____

14

The dashed line joins the points at 0 and 4 seconds. Find the average speed over the 4 seconds.



Speed _____

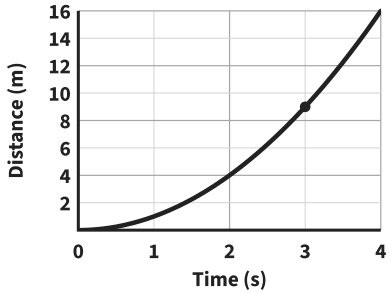
15

The tangent to a distance time graph at 5 seconds is horizontal. What is the speed at 5 seconds?
What is happening?

Speed _____

16

Draw the tangent at 3 seconds.
Use it to estimate the speed at 3 seconds.



Speed _____