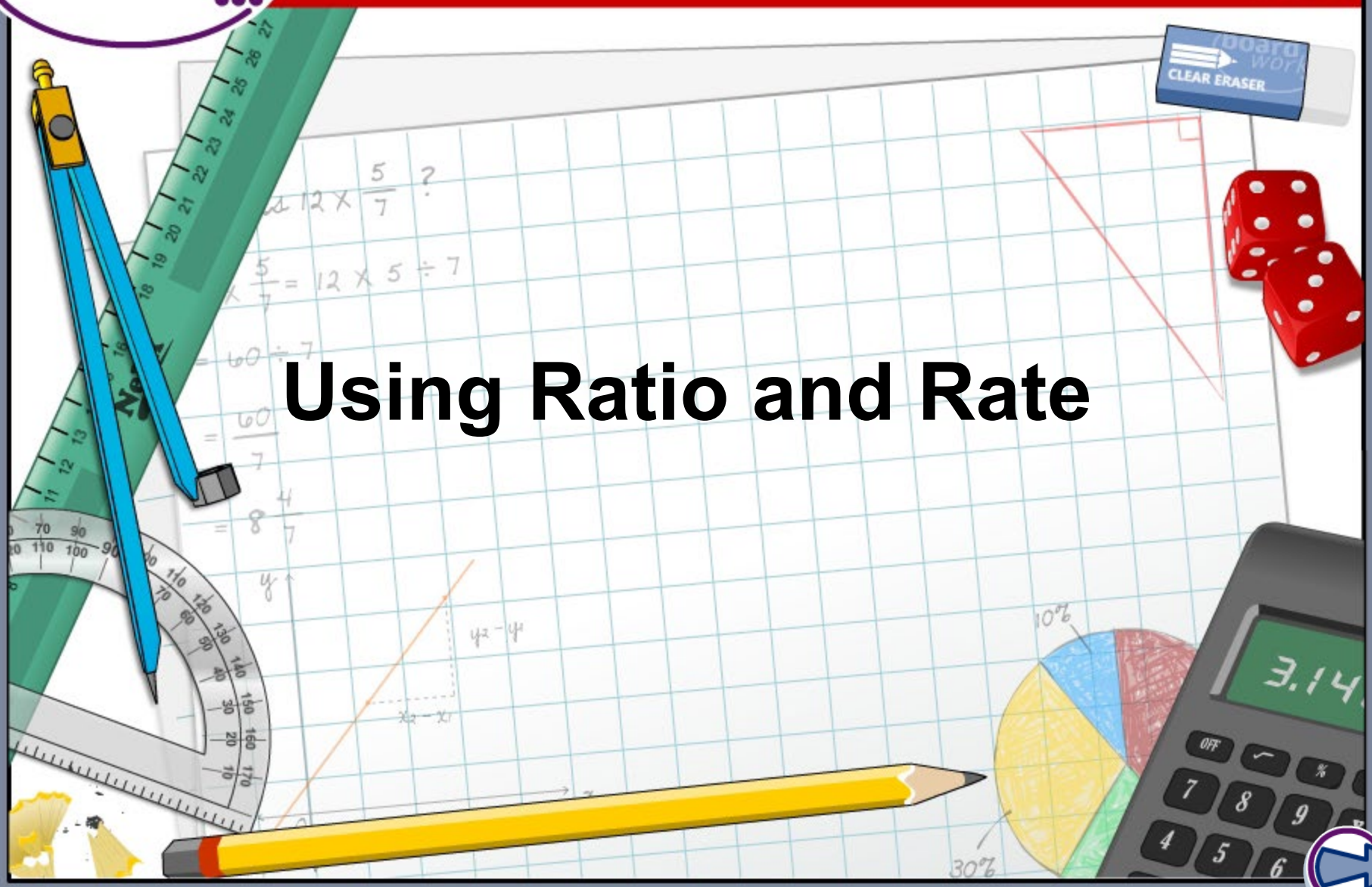


Using Ratio and Rate

Information

Common core icons

This icon indicates a slide where the Standards for Mathematical Practice are being developed. Details of these are given in the Notes field.

Slides containing examples of mathematical modeling are marked with this stamp.

This icon indicates an opportunity for discussion or group work.

The **Standards for Mathematical Practice** outlined in the Common Core State Standards for Mathematics describe varieties of expertise that mathematics educators at all levels should seek to develop in their students.

These are:

1) Make sense of problems and persevere in solving them.

2) Reason abstractly and quantitatively.

3) Construct viable arguments and critique the reasoning of others.

4) Model with mathematics.

5) Use appropriate tools strategically.

6) Attend to precision.

7) Look for and make use of structure.

8) Look for and express regularity in repeated reasoning.

This icon indicates that the slide contains activities created in Flash. These activities are not editable.

This icon indicates teacher's notes in the Notes field.

Equivalent ratios

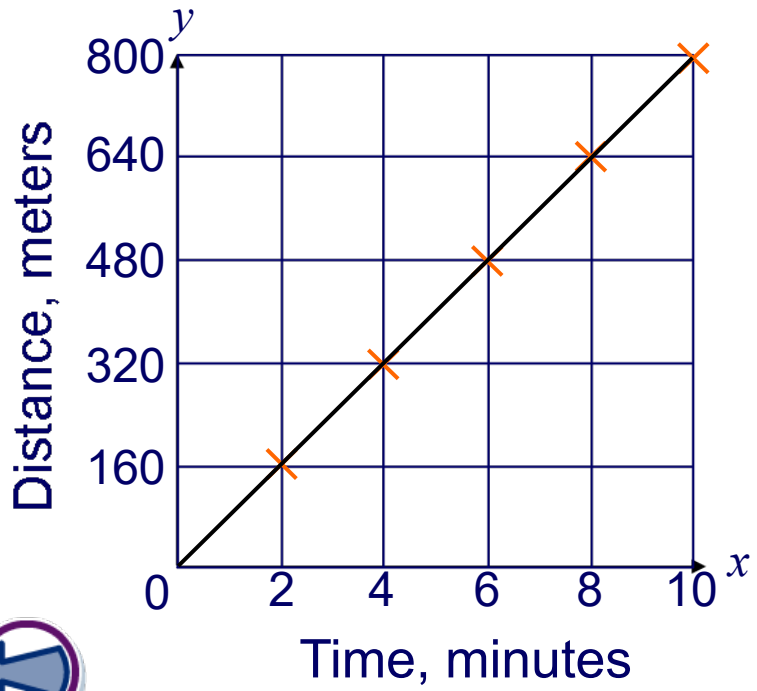
Madison wants to paint her bedroom orange. She mixed 2 pints of yellow paint with 3 pints of red paint to get the exact shade of orange that she wants.

Constant speed

Sasha walks to school at a constant speed. It takes her 10 minutes to walk 800 meters.

How far would she have walked in two minutes?

Time, minutes	2	4	6	8	10
Distance, meters	160	320	480	640	800



We can plot the points from the table onto a graph, and use this graph to find other values.

How far would Sasha walk in:

a) 3 minutes? 240 meters

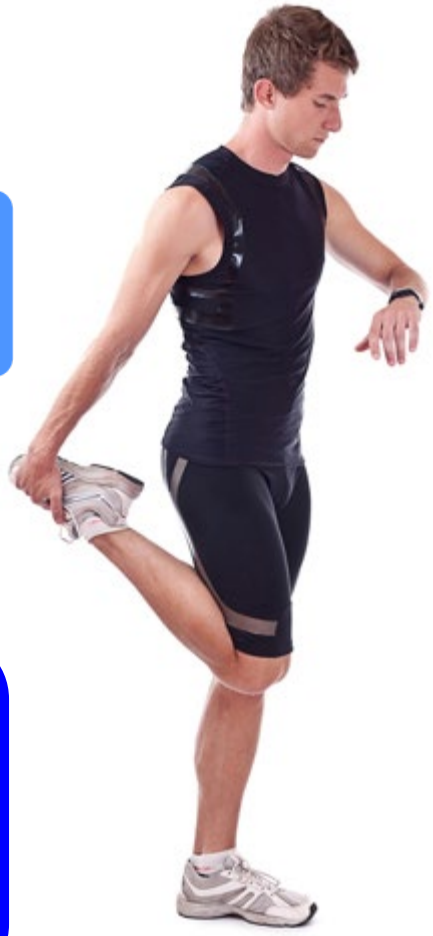
b) 7 minutes? 560 meters

Ratios for conversion

When you convert measurement units, you are using ratios.

Complete this table, then use the information to answer the question that follows.

meters (m)	1000	200	3500	470	500
kilometers (km)	1	0.2	3.5	0.47	0.5



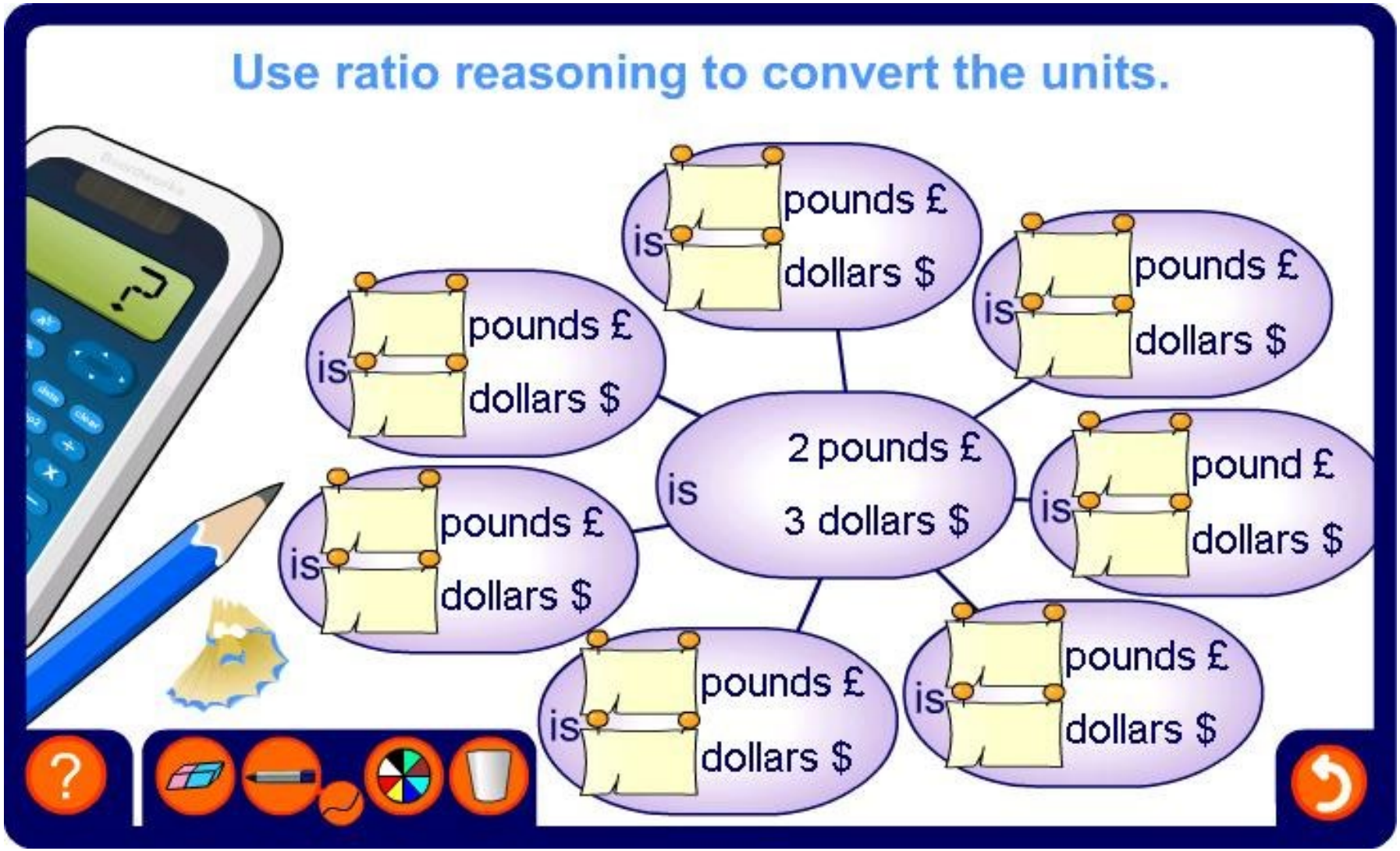
A race track measures 400 m. An athlete runs 2.6 km around the track. How many laps is this?

400 m = 0.4 km

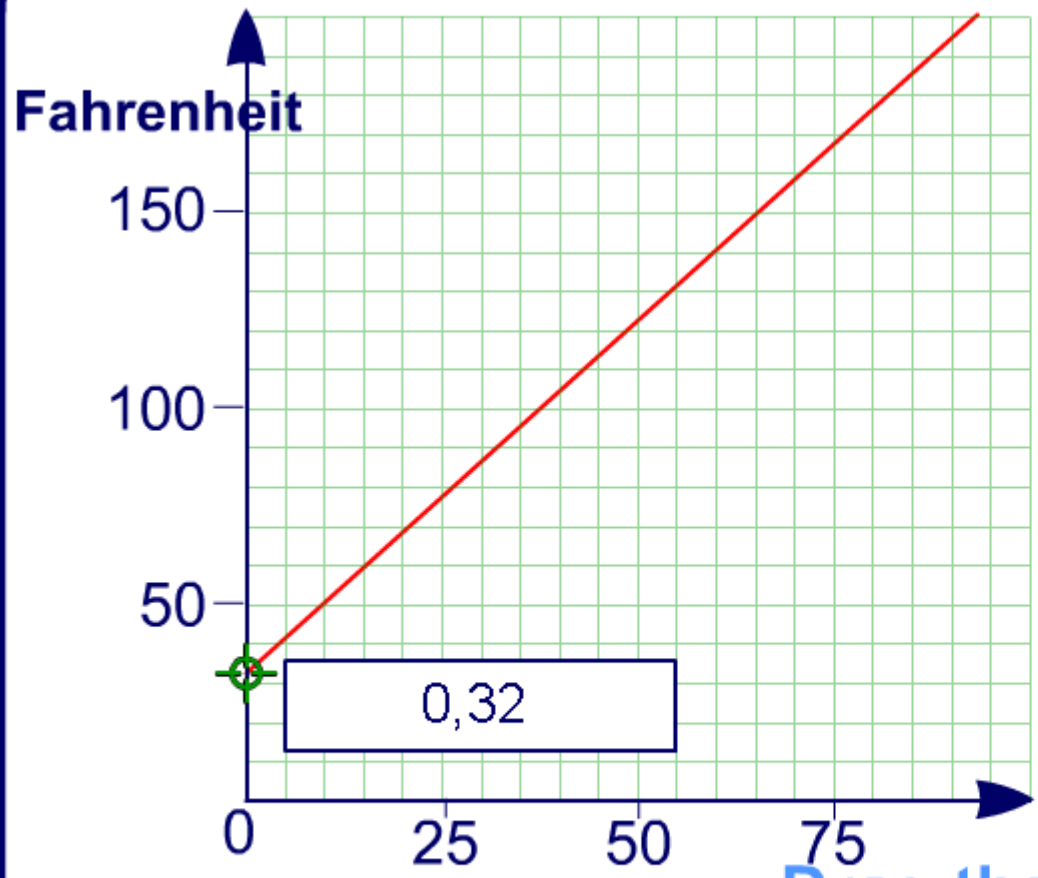
Number of laps = 2.6 ÷ 0.4

= **6.5 laps**

Conversion diagrams

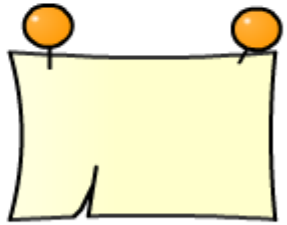


Conversion graph



Fahrenheit – Celsius Conversion

How many degrees Fahrenheit is 2 degrees Celsius?



Drag the crosshairs to answer the question.

Unit rate

Rate is used to compare quantities that have different units, like miles per hour or dollars per gallon. When a rate comparison is to one unit, it is called a **unit rate**. Solve the following unit rate calculations.

Press **start** to begin.

start

Brain stretch