Examples of Proportional Relationships

In this unit, we've seen many different types of situations that involve proportional relationships between two quantities. Here are some examples.

Type of Situation	Examples from this Unit	Sample Sentences
Unit Price	• Some T-shirts cost $8 each. • Blueberries cost $6 per pound.	_____ costs _____ per _____.
Constant Rate	• It took Priya 5 minutes to fill a cooler with 8 gallons of water. • Andre made 10 balloon animals in 3 minutes.	It takes _____ to make _____.
Constant Speed	• Mai rides her bike at a speed of 250 meters per minute. • It took a plane 1.5 hours to fly 915 miles, at a constant speed.	_____ was traveling at a constant speed of _____ per _____.
Recipes	• To make coco bread, a bakery uses 200 milliliters of coconut milk for every 360 grams of flour. • To make a certain shade of purple paint, we mix 1 part red paint with 4 parts blue paint.	To make _____, you mix _____ with _____.
Servings	• 6 spring rolls will serve 3 people. • 4 seagulls ate 10 pounds of garbage.	_____ will serve _____.
Unit Conversion	• 1 inch is equal to 2.54 centimeters. • The weight of 10 aluminum cans is 0.16 kilograms. • In Canadian coins, 16 quarters is equal in value to 2 toonies.	_____ is equal to _____.
Ratios	• There are 3 apples for every 1 orange in the fruit salad.	There are _____ for every _____.

Note: These are just examples of possible types of situations to help you brainstorm. You do not have to use one of these situations.

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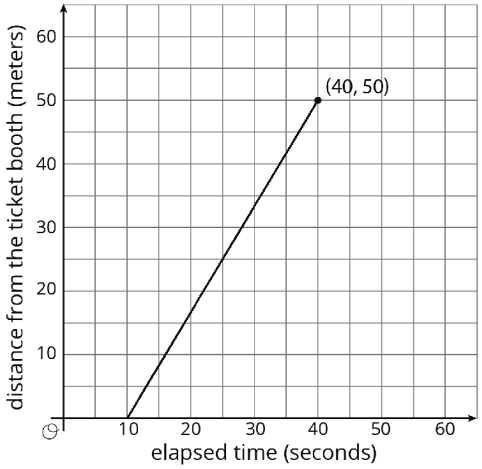
Examples of Nonproportional Relationships

Here are examples of relationships that are not proportional that we've seen in this unit.

<table>
<tr><th>Type of Situation</th><th colspan="2">Examples from this Unit</th></tr>
<tr><td>Price</td><td>Entrance to a state park costs $6 per vehicle, plus $2 per person in the vehicle.</td><td>Here are the prices for smoothies at Smoothie Shop B.
<table><tr><th>smoothie size (oz)</th><th>price ($)</th></tr><tr><td>8</td><td>6</td></tr><tr><td>12</td><td>8</td></tr><tr><td>16</td><td>10</td></tr></table></td></tr>
<tr><td>Speed</td><td>Han was running laps around the track. The coach recorded his times at the end of laps 2, 4, 6, and 8, as shown in this table.
<table><tr><th>distance (laps)</th><th>time (minutes)</th></tr><tr><td>2</td><td>4</td></tr><tr><td>4</td><td>9</td></tr><tr><td>6</td><td>15</td></tr><tr><td>8</td><td>23</td></tr></table></td><td>Mai left the ticket booth 10 seconds later than Tyler. She caught up with Tyler just as he arrived at the bumper cars.
 
</td></tr>
<tr><td>Formulas</td><td>The equation $F = \frac{9}{5}C + 32$ shows the relationship where F represents degrees Fahrenheit and C represents degrees Celsius.</td><td>The equation $A = 6s^2$ shows the relationship where s represents the side length of a cube and A represents the cube's surface area.</td></tr>
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