



**For each question, explain your thinking using a diagram, equation, or words.**

1) How much would twelve bars cost?

2) How many bars can you buy for \$30? for \$100?

3) How much does one bar cost?

4) The grocery store pays a \$20 shipping cost to order these bars no matter how many boxes they order. The bars cost the company \$0.50 each.

a) How much do twelve bars cost the company? How much do 100 bars cost the company?

b) If the company orders 1000 bars and sells them all, how much profit did they make?

## From Illustrative Mathematics

Jessica sees the following speed limit sign while visiting Australia where the units for speed are kilometers per hour:



1. A conversion table indicates that 1 mile is 1.6 km. With this conversion rate, is the speed limit greater than or less than 65 mph? Explain.
2. Jessica finds out that 1 mile is not exactly 1.6 km. This number has been rounded to the nearest tenth. Does this influence the answer to part (a)?

## From the Functions Progression Document

### Battery charging

Sam wants to take his MP3 player and his video game player on a car trip. An hour before they plan to leave, he realized that he forgot to charge the batteries last night. At that point, he plugged in both devices so they can charge as long as possible before they leave.

Sam knows that his MP3 player has 40% of its battery life left and that the battery charges by an additional 12 percentage points every 15 minutes. His video game player is new, so Sam doesn't know how fast it is charging but he recorded the battery charge for the first 30 minutes after he plugged it in.

| Time Charging                    | 0  | 10 | 20 | 30 |
|----------------------------------|----|----|----|----|
| Video game player battery charge | 20 | 32 | 44 | 56 |

1. If Sam's family leaves as planned, what percent of the battery will be charged for each of the two devices when they leave?
2. How much time would Sam need to charge the battery 100% on both devices?
3. How could this task be adjusted to accommodate other grade levels?