

Using Bar Models to Find the Fraction and Percent of a Number

Fraction of a Number

What is $\frac{3}{4}$ of 20?

I want to figure out how much is $\frac{3}{4}$ of the number 20. 20 is the whole, or the entire fraction.

What is the numerator? (3)

What is the denominator? (4)

Whisper to your neighbor “Which part of the fraction tells me how many pieces or parts or in the fraction?” (The denominator)

Draw a bar model

The bar represents the “whole” so how much the bar worth?

The denominator tells me how many pieces to divide the bar into; so how many pieces will I draw? (4)

If the entire bar is worth 20 and I have broken it into 4 equal pieces, how much is each piece worth? (5)



Looking at the bar model can you now answer the question; what is $\frac{3}{4}$ of 20?

What is — of 20? (15)

What is $\frac{1}{4}$ of 20? (5)

What is — or $\frac{1}{2}$ of 20? (10)

You try:

Find $\frac{5}{8}$ of 48?

Extension:

Have students create a word problem that could be solved using information from the bar model.

Challenge

Percent of a Number

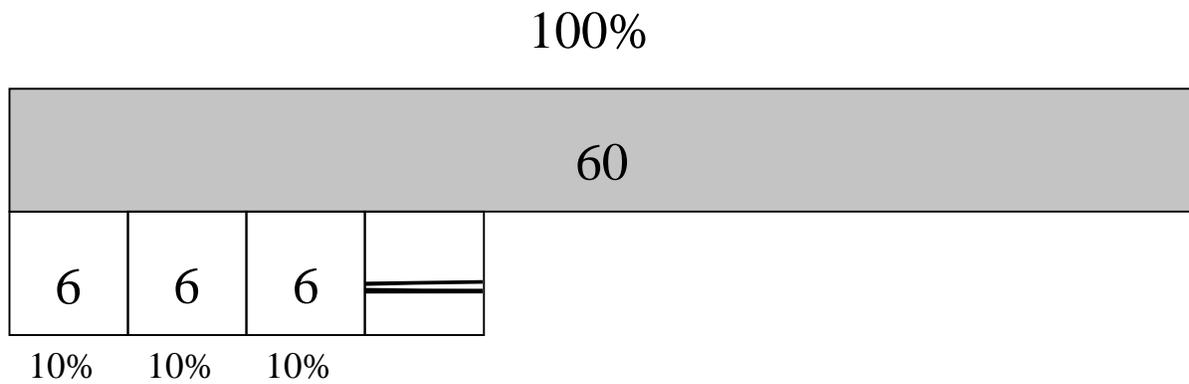
What is 40% of 250?

Draw a bar model with 10 equal spaces. Why might I choose to draw 10 spaces?

What is $250 \div$

What is 30% of 60?

Ask students to fill in this bar model.



$10\% = 6$ so $30\% = 18$

How could you find out 2% of 60 using the bar model you have already created?

(Divide 1 column – or 10% segment in to 5 parts to find 2%, or into 10 segments to find 1% and then double it)

Possible word problem for this bar model: Ali's haircut cost \$60. She wants to leave a 15% tip. How much money will she spend?

