

A Fraction as a Percent

Students write a fraction and a decimal as a percent of a whole quantity, and write a percent of whole quantity as a fraction or decimal.

Example Problem and Solution

Star Middle school was having a Spring Fair. Terry was responsible for the workers in the dunking booth. Here is a list of the workers and the percent of time they would have to work. Complete the table with the missing values.

Worker	Percentage	Fraction	Decimal
Serrie		$\frac{30}{100}$	0.30
Paul	45%		.45
Juan	25%	$\frac{25}{100}$	

Answer: Serrie – Percentage is 30%

Paul – Fraction is $\frac{45}{100}$

Juan – Decimal is .25

Example Problem and Solution

Use the tape diagram to answer the following questions.

80% is what fraction of the whole quantity? $\frac{4}{5}$

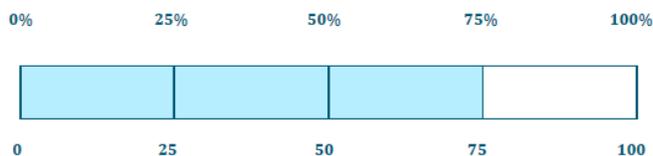
$\frac{1}{5}$ is what percent of the whole quantity? 20%



Example Problem and Solution

Maria completed $\frac{3}{4}$ of her workday. Create a model that represents what percent of the shift Maria has worked.

Tape Diagram



She has completed 75% of the shift.

What percent of her work day does she have left? 25%

The tape diagram shows that $\frac{3}{4} = 75\%$ and that the $\frac{1}{4}$ she has left is the same as 25%.



Focus Area Topic D:

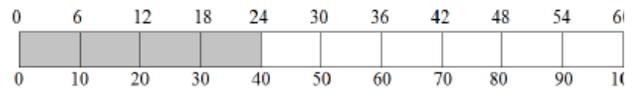
Percents and Rates Per Hundred

Example Problem and Solution

Find 40% of 60 using two different strategies, one of which must include a pictorial model or diagram.

40 % of 60 $40\% = \frac{40}{100} = \frac{4}{10} = \frac{24}{60}$ 40 % of 60 is 24

or



The bottom of the tape diagram shows the 100% broken up into sections of 10% for each section. The top portion of the tape diagram shows 60 as the whole. When 60 is divided into 10 equal parts each section of the diagram is 6. The pictorial representation shows 24 is 40% of 60.

Solving Percent Problems

Example Problem and Solution

Jane paid \$40 for an item after she received a 20% discount. Janes friend says this means that the original price of the itme was \$48.

- How do you think Jane's friend arrived at this amount?
- Is her friend correct? Why or why not.

If students are able to critique the work of others it is an indication they have a deep understanding of the objectives of this part of the module.

Solution

- Jane's friend found 20% of 40 which is 8. Then she added \$8 to the sale price. $40 + 8 = 48$. She determined from this that the original amount was \$48.
- Jane's friend was incorrect. Because Jane saved 20%, she paid 80% of the original price. From the tape diagram we see if \$40 was 80% of the original then 100% or the original amount was \$50.

