Grade 6  
Unit 3Lesson 13CC BY NC Illustrative Mathematics, based on IM 6–8 Math, CC BY Open Up Resources.

Unit 3, Lesson 13

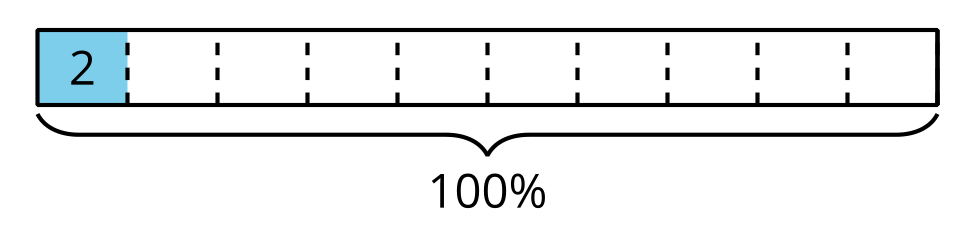
# Benchmark Percentages

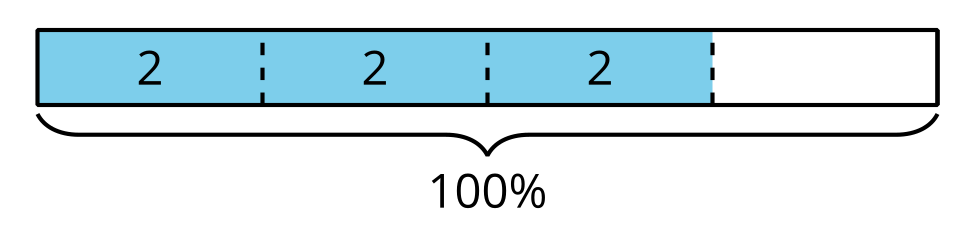
Let’s contrast percentages and fractions.

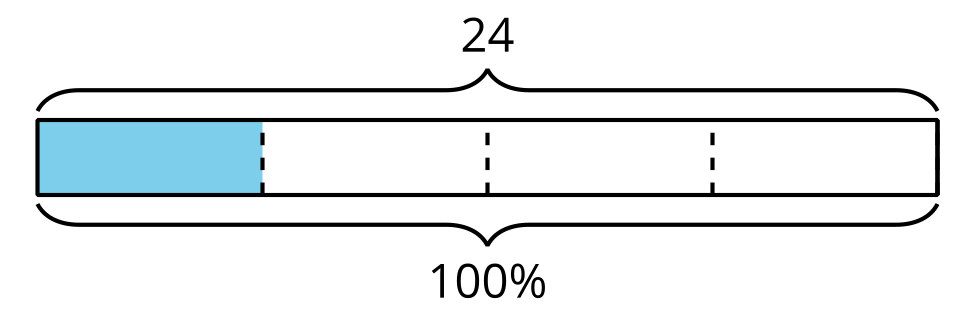
Grade 6  
Unit 3Lesson 13CC BY NC Illustrative Mathematics, based on IM 6–8 Math, CC BY Open Up Resources.

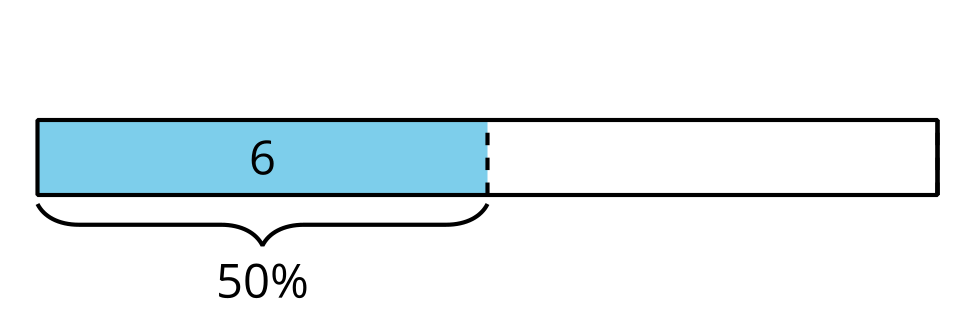
## 13.1Which Three Go Together: Shaded Diagram

Which three go together? Why do they go together?

A

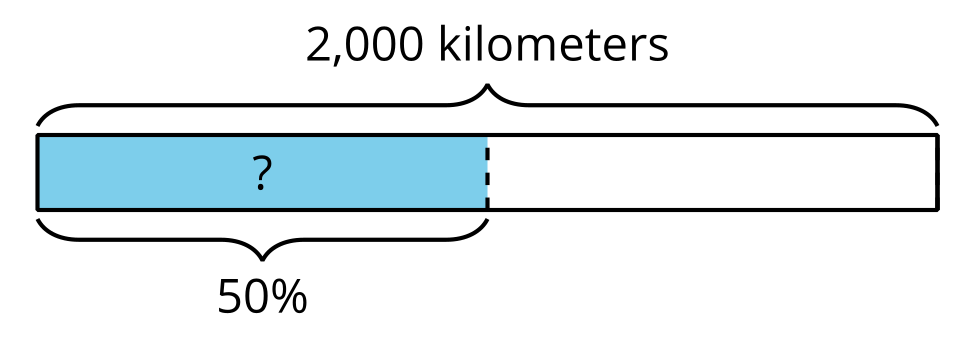
B

C

D

Grade 6  
Unit 3Lesson 13CC BY NC Illustrative Mathematics, based on IM 6–8 Math, CC BY Open Up Resources.

## 13.2Liters, Meters, and Hours

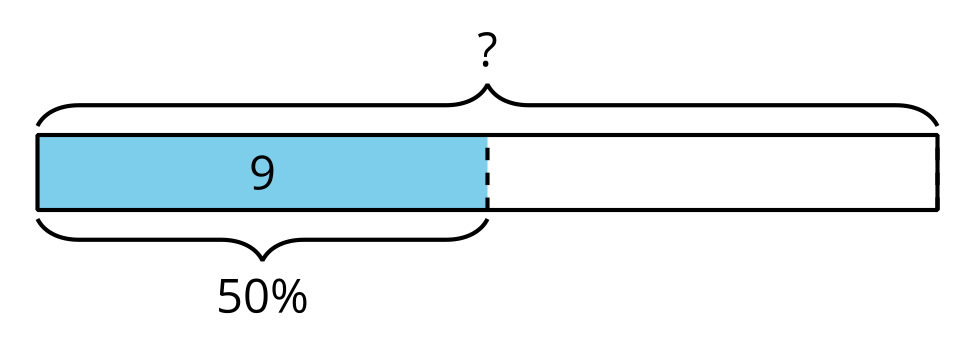
* 1. How much is 50% of 10 liters of milk?
  + 
  1. How far is 50% of a 2,000-kilometer trip?
  + 
  1. How long is 50% of a 24-hour day?
  + 
  1. How can you find 50% of any number?
  2. How far is 10% of a 2,000-kilometer trip?
  3. How much is 10% of 10 liters of milk?
  4. How long is 10% of a 24-hour day?
  5. How can you find 10% of any number?
  6. How long is 75% of a 24-hour day?
  7. How far is 75% of a 2,000-kilometer trip?
  8. How much is 75% of 10 liters of milk?
  9. How can you find 75% of any number?

Grade 6  
Unit 3Lesson 13CC BY NC Illustrative Mathematics, based on IM 6–8 Math, CC BY Open Up Resources.

## 13.3Nine Is . . .

Calculate each value mentally. Be prepared to explain your reasoning.

1. 9 is 50% of what number?
2. 9 is 25% of what number?
3. 9 is 10% of what number?
4. 9 is 75% of what number?
5. 9 is 150% of what number?



Grade 6  
Unit 3Lesson 13CC BY NC Illustrative Mathematics, based on IM 6–8 Math, CC BY Open Up Resources.

## 13.4Shopping with Coupons

Han and Clare go shopping, and they each have a coupon.

1. Han buys an item with a normal price of $15, and uses a 10% off coupon. How much does he save by using the coupon? Show your reasoning.

* 

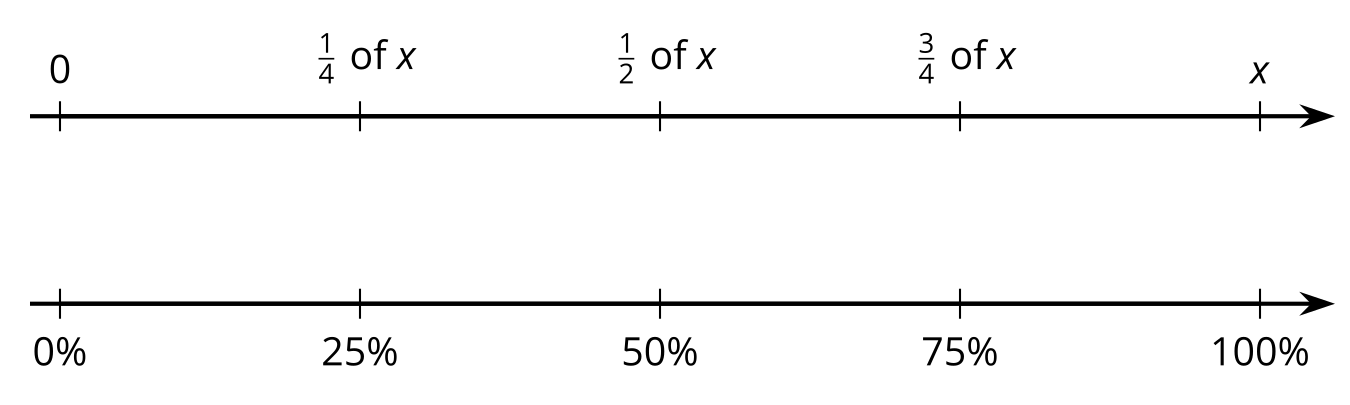
1. Clare buys an item with a normal price of $24, but saves $6 by using a coupon. For what percentage off is this coupon? Show your reasoning.

### Are you ready for more?

​​Clare paid full price for an item. Han bought the same item for 80% of the full price. Clare said, “I can’t believe I paid 125% of what you paid, Han!” Is what she said true? Explain your reasoning.

## Lesson 13 Summary

Certain percentages are easy to think about in terms of fractions.



* 25% of a number is always of that number. For example, 25% of 40 liters is , or 10 liters.
* 50% of a number is always of that number. For example, 50% of 82 kilometers is , or 41 kilometers.
* 75% of a number is always of that number. For example, 75% of 1 pound is pound.
* 10% of a number is always of that number. For example, 10% of 95 meters is 9.5 meters.

We can also find multiples of 10% using tenths. For example, 70% of a number is always of that number, so 70% of 30 days is , or 21 days.

