

# Percent Problems

part  $\rightarrow \frac{24}{32} = \frac{75}{100}$  percent

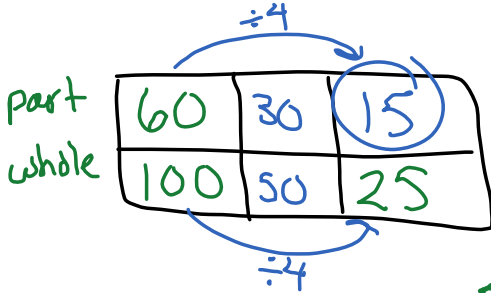
You've done a great job finding percents by converting them to decimals or fractions and multiplying. Today, we're going to learn about other methods that can help us answer percent problems



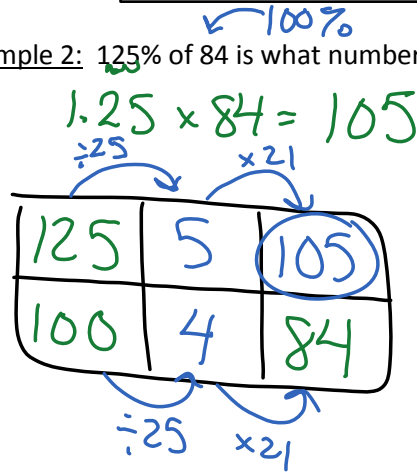
## Finding the Part

Example 1: What number is 60% of 25?

60% of 25 = 15  
 $0.6 \times 25 = 15$



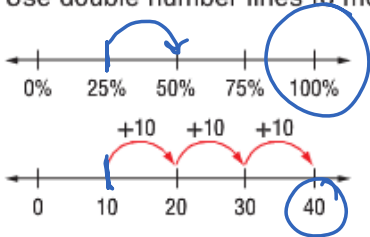
Example 2: 125% of 84 is what number?



## Finding the Whole

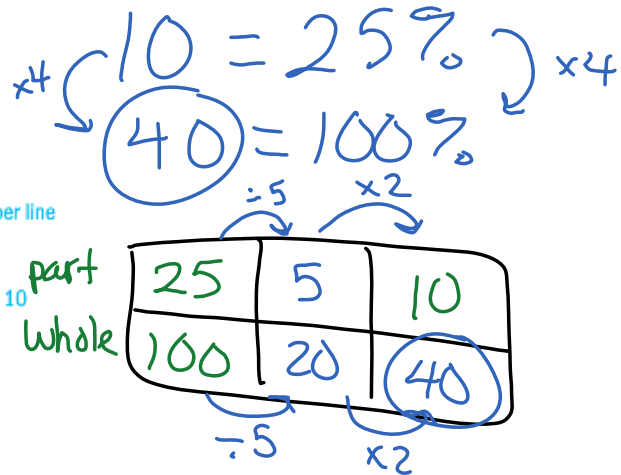
Example 3: 10 is 25% of what number?

Use double number lines to model 25% and 10.



To model 25%, divide the number line into four parts.

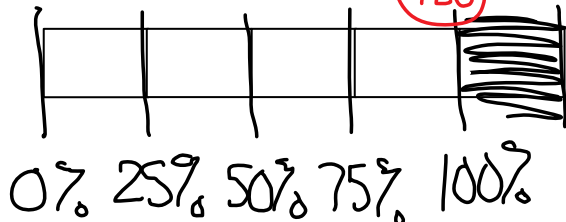
Write 10 at the 25% mark. Add 10 at each mark to find the whole.



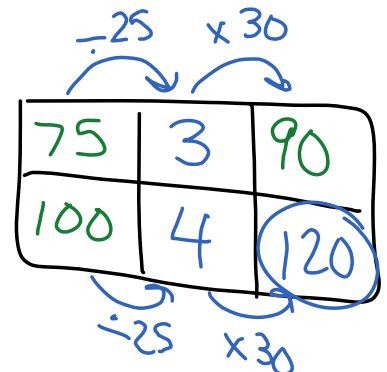
Example 4:

Country music makes up 75% of Landon's music library. If he has downloaded 90 country music songs, how many songs does Landon have in his music library?

0 30 60 90 120 how many total ???



120 songs



$75\% \div 3 = 25\%$ ,  $90 \div 3 = 30$

Got It? Do these problems to find out.

a. 30 is 50% of what number?

30		60
50%		100%

50	10	30
70	20	60

b. 60 is 20% of what number?

20	X	60
100		300

300

c. What number is 7% of 400?

400  
 $\times 0.07$   
 -----  
 2800  
 -----  
 2800

7	X	28
100		400

28

Peyton spent 60% of her money to buy a new television. If the television cost \$300, how much money did she have?

60	30	300
100	50	500

\$500

5. In the first year of ownership, a new car can lose 20% of its value. If a car lost \$4,200 of value in the first year, how much did the car originally cost?

20	100	4200
100	500	21000

\$21,000

42  
 $\times 5$   
 -----  
 210

Guided Practice

Solve.

1. 40 is 20% of what number?

40		200
20%		100%

200

2. 90 is 25% of what number?

25	5	90
100	20	360

360

90  
 $\div 5$   
 -----  
 18

3. 120 is 30% of what number?

30		120
100		400

400

4. 60 is 15% of what number?

15		60
100		400

400

60  
 $\div 15$   
 -----  
 4

400

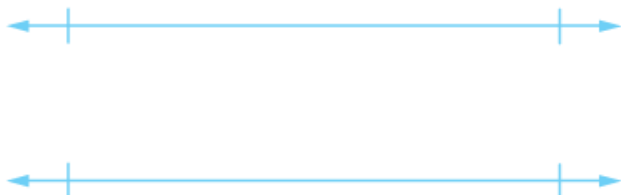
# Independent Practice

Go online for Step-by-Step Solutions

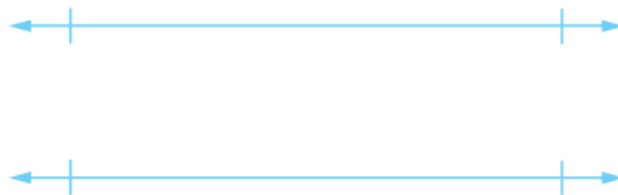


Use double number lines to find the missing number. (Example 1)

1. 63 is 90% of what number? \_\_\_\_\_



2. 80 is 25% of what number? \_\_\_\_\_



Write a percent proportion and solve each problem. (Examples 3 and 4)

3. 22 is 44% of what number?

\_\_\_\_\_

4. 450 is 75% of what number?

\_\_\_\_\_

5. A store is having a sale where winter clothes are 60% of the original price. A sweater is on sale for \$30. What was the original price of the sweater? (Examples 2 and 5)

\_\_\_\_\_  
\_\_\_\_\_

6. Kai calculates that he spends 15% of a school day in science class. If he spends 75 minutes in science class, how many minutes does Kai spend in school?

(Examples 2 and 5) \_\_\_\_\_  
\_\_\_\_\_

For Exercises 7–9, use the table.

7. If you have 3 cups of pineapple juice, how many total cups of punch can you make? \_\_\_\_\_

\_\_\_\_\_

8. How many cups of sorbet are used in 8 cups of punch?

\_\_\_\_\_

Punch Recipe	
Ginger Ale	40%
Orange Juice	25%
Pineapple Juice	20%
Sorbet	15%