6.4 (E)

Represent ratios and percents with concrete models, fractions, and decimals

INTERVENE

<1 min

Fluency Practice

Read the following decimals and write their equivalent fractions to the right

10 Tens	1 Ones	.	1/10 Tenths	1/100 Hundredths	
	0	.	4	2	=
	0	.	0	5	=

5 min

Problem Solving Strategies

- **1. Understand the Problem**
  - Read the problem carefully (at least 2 to 3 times)
  - Highlight important information (what do I know)
  - Identify Math Clue words (words that tell you what math operations you need to use)
  - Underline what you need to find
- **2.Plan of Action (how you will solve this problem in steps)**
  - First I will
  - Then I will
  - Next I will
  - Finally, I will
- **3. Show your work in steps (solve using your steps)**
- **4. Check your answer (does my answer make sense? why)**

<3 min

Lesson

- Percent literally means **out of 100**
- This is a percent symbol: **%**
- 36% is equal to thirty-six hundredths $\frac{36}{100}$
- It's also equal to

10 Tens	1 Ones	.	1/10 Tenths	1/100 Hundredths
	0	.	3	6

1 min

What if the fraction's not in 100ths?

- We all know (hopefully!) there's no fifths place on the place value chart! There's no twenty-fifths place either!
- So does that mean fractions like $\frac{2}{25}$ and $\frac{2}{5}$ can't be converted to percents?

10 Tens	1 Ones	•	**1/10 Tenths**	**1/100 Hundredths**

Where would the 2/25 and 2/5 go?

They Can!

One way is to find an equivalent fraction in 10ths or 100ths so it'll actually fit on the place value chart

$$\frac{2}{25} \overset{\times 4}{\underset{\times 4}{=}} \frac{?}{100} \qquad \frac{2}{25} = \frac{8}{100} \qquad \frac{2}{25} = 8\%$$

10 Tens	1 Ones	.	**1/10 Tenths**	**1/100 Hundredths**
	0	.	0	8

There's a 10ths place too!

$$\frac{2}{5} \overset{\times 2}{=} \frac{?}{10} \qquad \frac{2}{5} = \frac{4}{10} = \frac{40}{100}$$

10 Tens	1 Ones	.	1/10 Tenths	1/100 Hundredths
	0	.	4	0

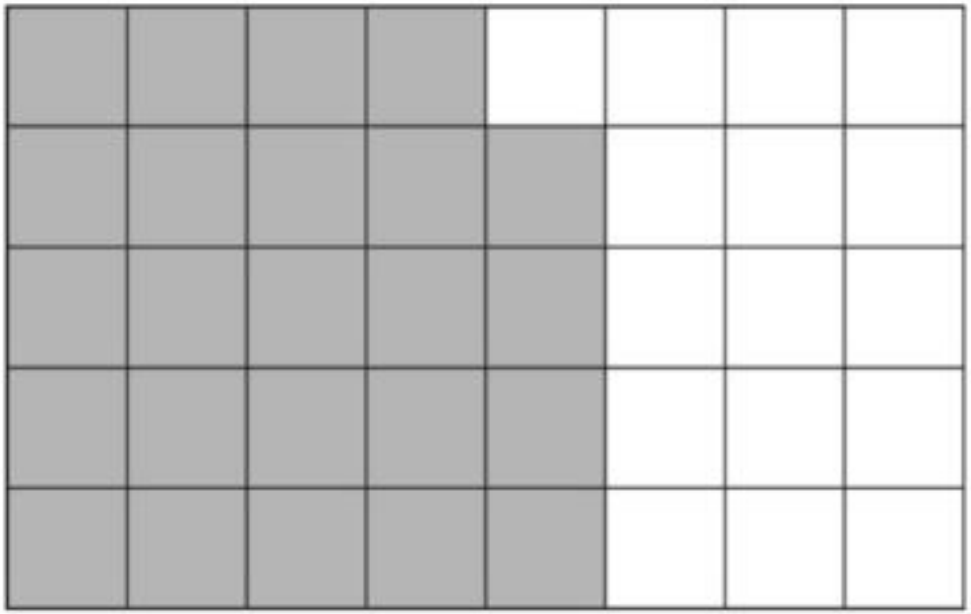
= 40%

Fill in the blanks

Fraction	Decimal	Percent
	0.23	
$\frac{28}{100}$		
		12%
$\frac{4}{5}$		
$\frac{7}{20}$		

I Do

The shaded area on the grid represents the part of a rectangular wall that was painted. Each small square on the wall has the same dimensions.



What percentage of the wall was painted?

A 64%

B 24%

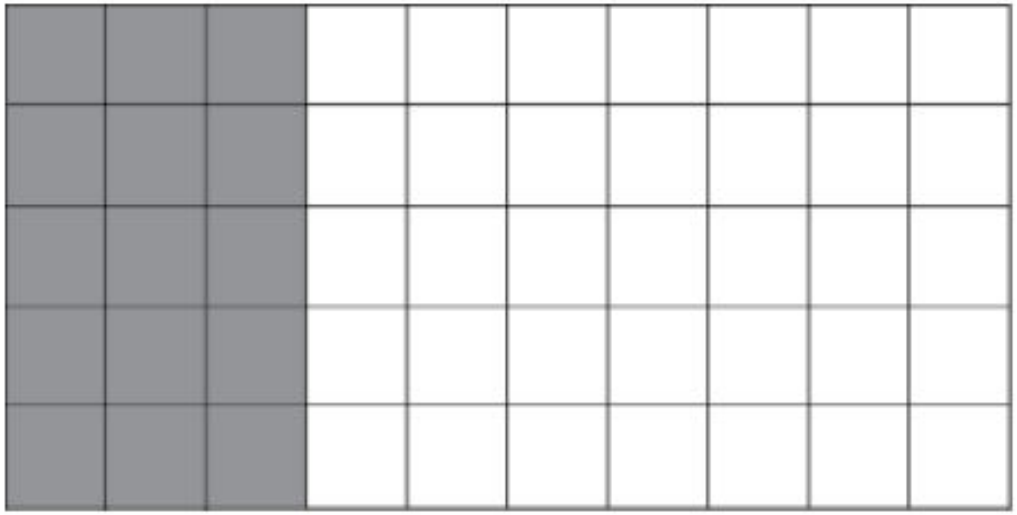
C 60%

D 16%

<5 min

We do - Question 1

A grid is shaded to represent a part of a whole.



Which of the following number is represented by the shaded portion of the grid?

A. $\frac{15}{50}$, 30%, 0.03

B. $\frac{15}{100}$, 15%, 0.15

C. $\frac{15}{50}$, 30%, 0.3

D. $\frac{15}{50}$, 15%, 0.3

<5 min

We do - Question 2

The shaded area on the grid represents the part of a quilt that is blue. Each small square on the grid is congruent.

What percentage of the quilt is blue ?

A. 24%

B. 30%

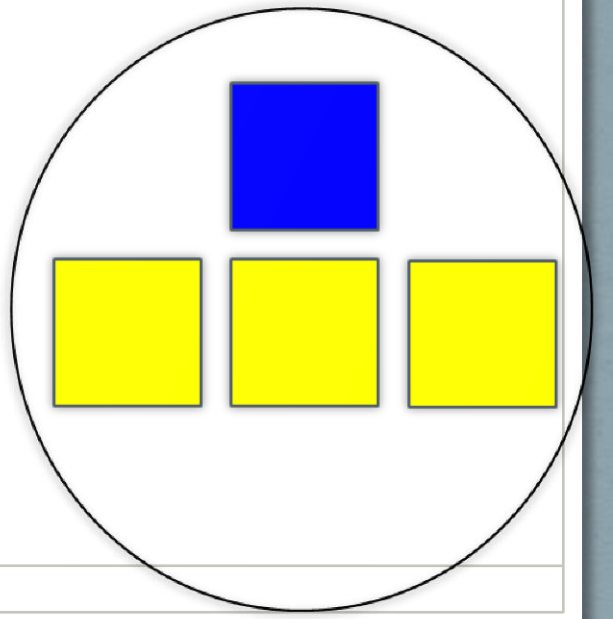
C. 36%

D. 42%

<5 min

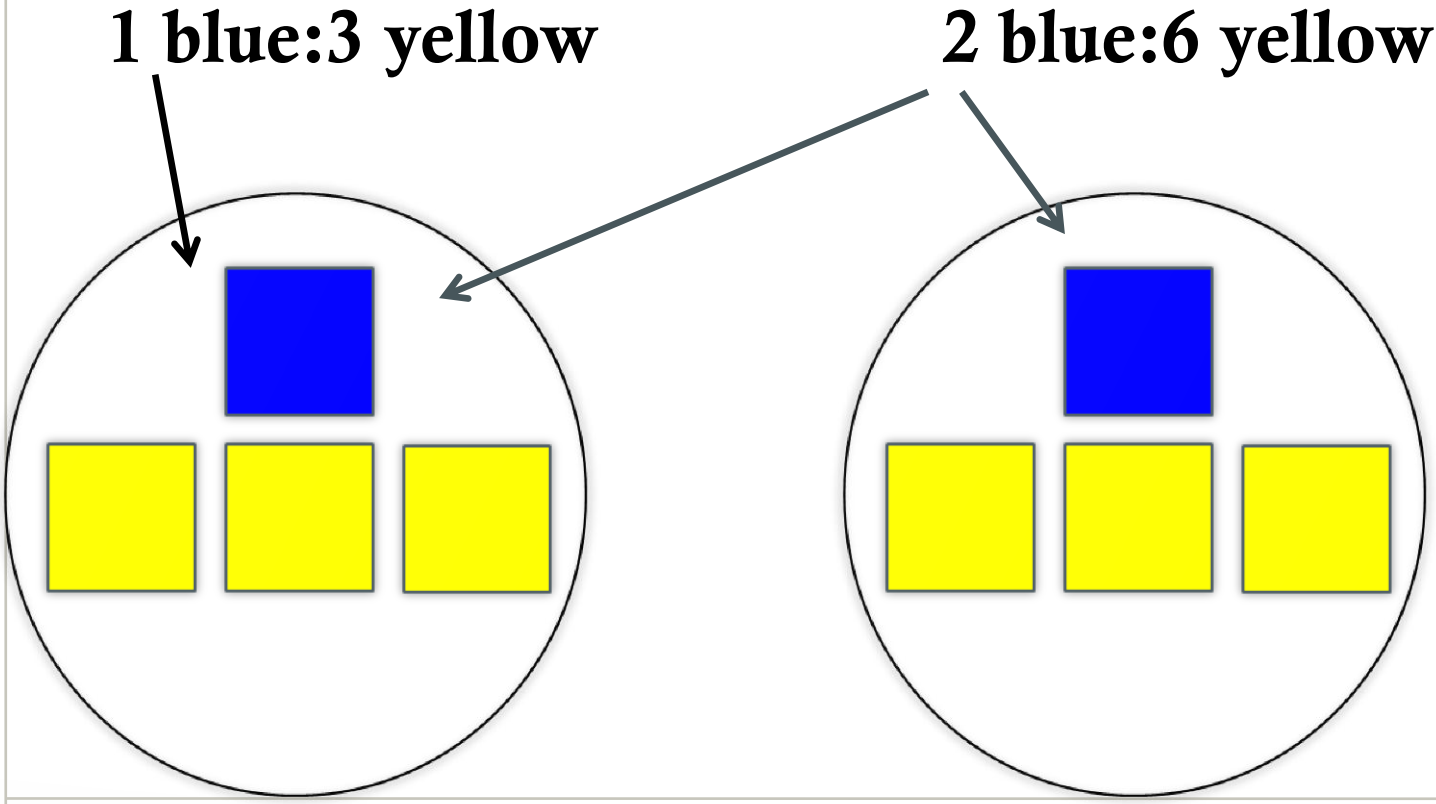
What is a Ratio

- **A ratio compares values.** It says how much of one thing there is compared to another thing.
- Example: There is 1 blue square to every 3 yellow squares
- Ratios can be shown in different ways:
- Use the ":" to separate the values: 1 : 3
- Or we can use the word "to": 1 to 3
- Or write it like a fraction: $\frac{1}{3}$



It can also scale up

If there's 1 blue square for every yellow square, that means there's 2 blue squares for every 6 yellow squares, and 3 blue squares for every 9 yellow squares.



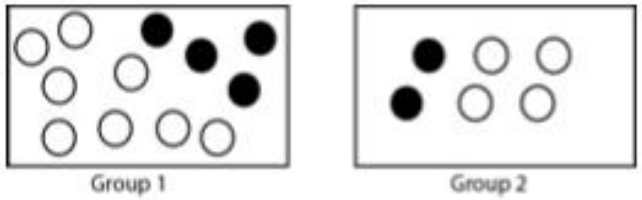
The trick with ratios is to always multiply or divide the numbers **by the same value**.

Example:

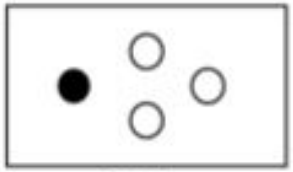
4 : 5 is the same as **4**×2 **: 5**×2 **= 8 : 10**

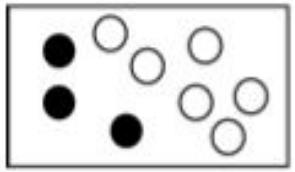
We Do – Question 3

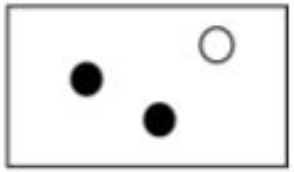
Five groups of black and white dots are shown below.


Group 1

Group 2


Group 3


Group 4


Group 5

In which of the groups is there a 2:1 ratio of white dots to black dots?

A. Groups 1, 2, and 5 only

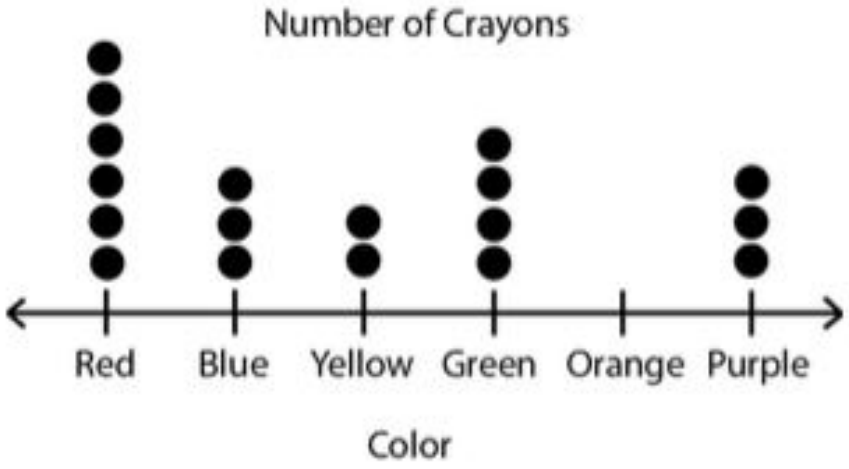
B. Groups 1, 2, and 4 only

C. Group 5 only

D. Groups 1, 2, 3, and 4 only

<5 min

The dot plot below shows the number of different colors of crayons on Mario's desk.



Which statement is best supported by the information in the dot plot?

A. The ratio of blue crayons to the total number of crayons is 1:5.

B. The ratio of blue crayons to yellow crayons is 2:1.

C. The ratio of yellow crayons to green crayons is 2:1.

D. The ratio of blue crayons to the total number of crayons is 1:6.

We do - Question 4

<5 min

Debrief

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	0	.	3	6

1 min

You Do

- Go back to Intervene to take your quiz!

Answer Key

- I Do- C
- We Do 1 – C
- We Do 2- B
- We Do 3 – B
- We Do 4- D