

## Fractions to Percentages

## Fractions to Percentages

1a. Archie says,



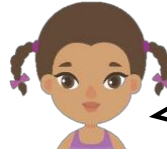
$\frac{1}{10}$  as a percentage is 1%.

Is he correct? Convince me.



R

1b. Annabelle says,



$\frac{20}{100}$  as a percentage is 20%.

Is she correct? Convince me.



R

2a. In this diagram, each shaded part is  $\frac{1}{10}$  of the area of the rectangle.

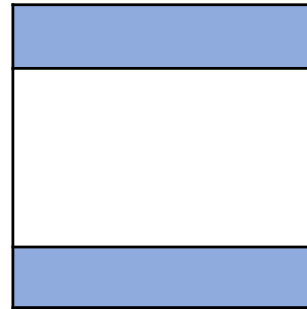


What percentage is equal to half of the white area?



PS

2b. In this diagram, each shaded part is  $\frac{20}{100}$  of the area of the square.



What percentage is equal to half of the white area?



PS

3a. Jan has converted a fraction into a percentage. She says,



My denominator is 10 and my numerator is odd. My percentage is more than 40%.

What are her fraction and percentage combinations?



PS

3b. Seb has converted a fraction into a percentage. He says,



My numerator is between 15 and 20 and my denominator is 100. My percentage is less than 20%.

What are his fraction and percentage combinations?



PS

## Fractions to Percentages

## Fractions to Percentages

4a. Millen says,



$\frac{1}{25}$  as a percentage is  
25%.

Is she correct? Convince me.



R

4b. Joey says,



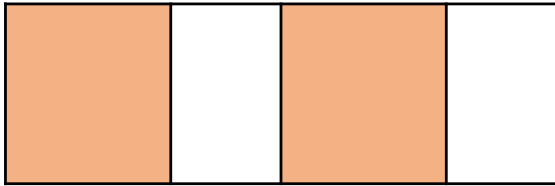
$\frac{1}{20}$  as a percentage  
is 5%.

Is he correct? Convince me.



R

5a. In this diagram, each shaded part is  $\frac{6}{20}$  of the area of the rectangle.

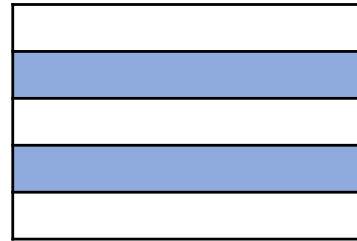


What percentage is the total white area?



PS

5b. In this diagram, each shaded part is  $\frac{5}{25}$  of the area of the rectangle.



What percentage is the total white area?



PS

6a. Seb has converted a fraction into a percentage. He says,



My denominator is 20 or 50. My numerator is divisible by 3. My percentage is  $>50\%$ .

What could his fraction and percentage combinations be? Find two examples for each denominator.



PS

6b. Malikah has converted a fraction into a percentage. She says,



My numerator is even. My denominator is 20 or 25. My percentage is  $<60\%$ .

What could her fraction and percentage combinations be? Find two examples for each denominator.



PS

## Fractions to Percentages

## Fractions to Percentages

7a. Marie says,



I scored  $\frac{29}{40}$  on the first test and  $\frac{19}{35}$  on the second test. I scored 65% altogether.

Is she correct? Convince me.



R

7b. Ray says,



I scored  $\frac{19}{20}$  on the first test and  $\frac{9}{15}$  on the second. I scored 85% altogether.

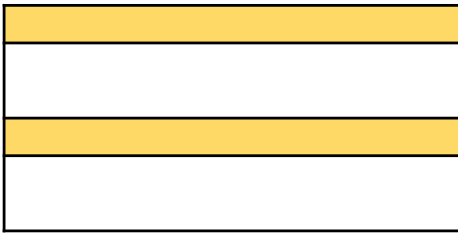
Is he correct? Convince me.



R

8a. In this diagram, each shaded part is  $\frac{3}{15}$  of the area of the rectangle.

The two white parts are equal.



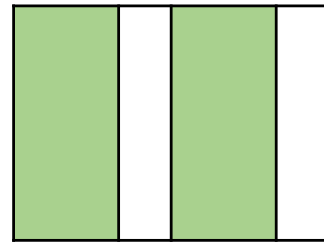
What percentage is one of the white areas?



PS

8b. In this diagram, each shaded part is  $\frac{9}{30}$  of the area of the square.

The two white parts are equal.



What percentage is one of the white areas?



PS

9a. Issa has converted a fraction into a percentage. He says,



My numerator contains a 2 and my denominator contains a 3. My percentage is equal to or  $>60\%$ .

What could his fraction and percentage combinations be? Find four examples each with a different denominator.



PS

9b. Aimee has converted a fraction into a percentage. She says,



My denominator contains a 4 and my numerator contains a 1. My percentage is  $<45\%$ .

What could her fraction and percentage combinations be? Find four examples each with a different denominator.



PS

## Reasoning and Problem Solving Fractions to Percentages

### Developing

1a. Archie is incorrect. 1% is not  $\frac{1}{10}$ . 1% is  $\frac{1}{100}$  and  $\frac{1}{10}$  is 10%.

2a. 40%

3a.  $\frac{5}{10}$  and 50%;  $\frac{7}{10}$  and 70%;

$\frac{9}{10}$  and 90%

### Expected

4a. Millen is incorrect. 25% is not  $\frac{1}{25}$ . 25% is  $\frac{1}{4}$  and  $\frac{1}{25}$  is 4%.

5a. 40%

6a. Various answers, for example:

$\frac{15}{20}$  and 75%,  $\frac{18}{20}$  and 90%;

$\frac{30}{50}$  and 60%,  $\frac{48}{50}$  and 96%

### Greater Depth

7a. Marie is incorrect. She scored 48/75 in total which equals 64%.

8a. 30%

9a. Various answers, for example:

$\frac{21}{35}$  and 60%,  $\frac{21}{30}$  and 70%;

$\frac{24}{32}$  and 75%,  $\frac{27}{36}$  and 75%

## Reasoning and Problem Solving Fractions to Percentages

### Developing

1b. Annabelle is correct because  $\frac{20}{100}$  is equal to 20%, as percent is out of 100.

2b. 30%

3b. Seb's possible combinations are:

$\frac{16}{100}$  and 16%,  $\frac{17}{100}$  and 17%,  $\frac{18}{100}$  and

18%,  $\frac{19}{100}$  and 19%

### Expected

4b. Joey is correct because  $\frac{1}{20}$  is equal to  $\frac{5}{100}$ , which is 5%, as percent is out of 100.

5b. 60%

6b. Various answers, for example:

$\frac{6}{20}$  and 30%,  $\frac{10}{20}$  and 50%;

$\frac{8}{25}$  and 32%,  $\frac{14}{25}$  and 56%

### Greater Depth

7b. Ray is incorrect. He scored 28/35 in total which equals 80%.

8b. 20%

9b. Various answers, for example:

$\frac{11}{44}$  and 25%,  $\frac{12}{48}$  and 25%;

$\frac{12}{40}$  and 30%,  $\frac{16}{40}$  and 40%