Fractions to Percentages

Fractions to Percentages

1a. Archie says,

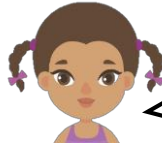$\frac{1}{10}$ as a percentage is 1%.

Is he correct? Convince me.

1b. Annabelle says,

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

Is she correct? Convince me.

2a. In this diagram, each shaded part is $\frac{1}{10}$ of the area of the rectangle.
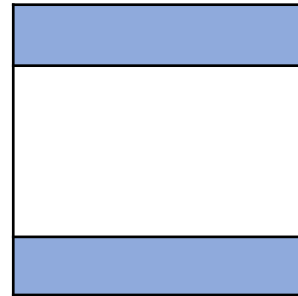
What percentage is equal to half of the white area?

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?

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?

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?

Reasoning and Problem Solving – Fractions to Percentages – Year 6 Developing

Fractions to Percentages

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4a. Millen says,

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

Is she correct? Convince me.

☆ E   R

4b. Joey says,

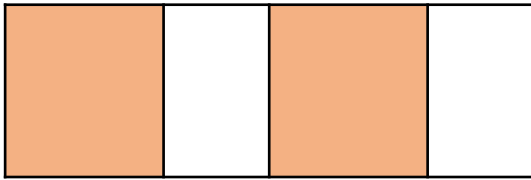$\frac{1}{20}$ as a percentage is 5%.

Is he correct? Convince me.

☆ E   R

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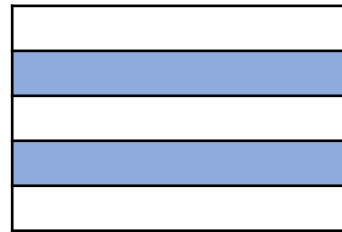
What percentage is the total white area?

☆ E   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?

☆ E   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.

☆ E   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.

☆ E   PS

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Reasoning and Problem Solving – Fractions to Percentages – Year 6 Expected

Fractions to Percentages

Fractions to Percentages

7a. Marie says,

> I scored 29/40 on the first test and 19/35 on the second test. I scored 65% altogether.

Is she correct? Convince me.

GD

R

7b. Ray says,

> I scored 19/20 on the first test and 9/15 on the second. I scored 85% altogether.

Is he correct? Convince me.

GD

R

8a. In this diagram, each shaded part is $\frac{3}{15}$ of the area of the rectangle.
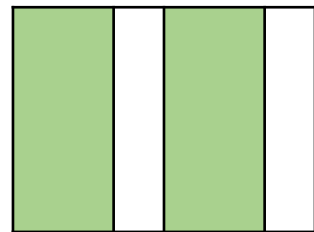
The two white parts are equal.

What percentage is one of the white areas?

GD

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?

GD

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.

GD

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.

GD

PS

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Reasoning and Problem Solving – Fractions to Percentages – Year 6 Greater Depth

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%

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Reasoning and Problem Solving – Fractions to Percentages ANSWERS