Name: ..... Class: .....

Equivalent ratios: word problems

1. Say wether this ratios are equivalent. $25 per 5 people and $100 per 20 people.

2. Are these ratios equivalent? 2 white shirts to 12 blue shirts and 6 white shirts to 36 blue shirts.

3. Are these ratios equivalent? 9 pens to 25 pencils and 31 pens to 5 pencils.

4. Say wether these ratios are equivalent. $125 per 5 people and $400 per 12 people.

5. Are these ratios equivalent? 4 black shirts to 21 blue shirts and 12 black shirts to 25 blue shirts.

6. Are these ratios equivalent? 19 pens to 55 pencils and 42 pens to 22 pencils.

7. Are these ratios equivalent? 12 green shirts to 24 blue shirts and 2 green shirts to 36 blue shirts.

8. Are these ratios equivalent? 5 rulers to 17 erasers and 24 rulers to 2 erasers.

Solution

Name: ..... Class: .....

Equivalent ratios: word problems

1. Say wether this ratios are equivalent. $25 per 5 people and $100 per 20 people.

We get the following two ratios from the information given.

25 : 5 and 100 : 20

Write the ratios in their fractional form:

$\frac{25}{5}$ and $\frac{100}{20}$ the LCD of 5 and 20 = 20

$\frac{25}{5} = \frac{25 \times 4}{5 \times 4} = \frac{100}{20}$ (make $\frac{25}{5}$ to have a denominator of 20)

Since $\frac{100}{20} = \frac{100}{20}$ it implies $\frac{25}{5}$ and $\frac{100}{20}$ are equal.

So, 25 : 5 and 100 : 20 are equivalent.

2. Are these ratios equivalent?

2 white shirts to 12 blue shirts and 6 white shirts to 36 blue shirts.

We get the following two ratios from the information given.

2 : 12 and 6 : 36

Write the ratios in their fractional form:

$\frac{2}{12}$ and $\frac{6}{36}$ the LCD of 12 and 36 = 36

$\frac{2}{12} = \frac{2 \times 3}{12 \times 3} = \frac{6}{36}$ (make $\frac{2}{12}$ to have a denominator of 36)

Since $\frac{6}{36} = \frac{6}{36}$ it implies $\frac{2}{12}$ and $\frac{6}{36}$ are equal

So, 2 : 12 and 6 : 36 are equivalent.

3. Are these ratios equivalent? 9 pens to 25 pencils and 31 pens to 5 pencils.

We get the following two ratios from the information given.

9 : 25 and 31 : 5

Write the ratios in their fractional form:

$\frac{9}{25}$ and $\frac{31}{5}$ the LCD of 25 and 5 = 25

$\frac{31}{5} = \frac{31 \times 5}{5 \times 5} = \frac{155}{25}$ (make $\frac{31}{5}$ to have a denominator of 25)

Since $\frac{155}{25} \neq \frac{9}{25}$ it implies $\frac{9}{25}$ and $\frac{31}{5}$ are not equal

So, 9 : 25 and 31 : 5 are not equivalent.