

Notes: 31 Ratio & Rates 1/5 =

Ratio: expression that compares two numbers by division

3 ways to write ratios:

(1) 38 to 100 or 38 out of 100

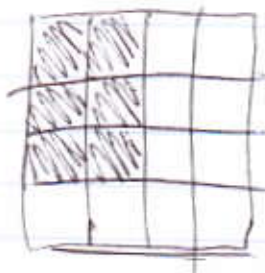
(2) 38 : 100

(3) $\frac{38}{100}$

→ always want to simplify if possible

$$\left(\frac{19}{50}\right)$$

Ratios can be expressed pictorially



$\frac{6}{16}$ = $\frac{\text{shaded squares}}{\text{total squares}}$

$$\frac{6 \div 2}{16 \div 2} = \left(\frac{3}{8}\right)$$

3:8
3 to 8

Rate: ratio that compares two measurements with different units

ex Miles to gallons, miles to hours

ex $\frac{40 \text{ miles}}{2 \text{ hours}}$

Notes: Cont 3-1

1/5

Unit rate: rate is simplified such that the denominator is 1

ex miles per (one) gallon mpg

miles per hour mph

ex: 40 miles per 2 hours

↳ unit rate is $\frac{20 \text{ miles}}{1 \text{ hour}}$

Try This:

1) Draw a figure in which ratio of shaded squares to total squares is $3:8$



2) Express each rate or ratio in simplest form

a) 2 cups : 18 cups

b) \$20 to 25 days

Answers
1 cup : 9 cups
\$ 4 to 5 days

3) Express each as a unit rate (bottom = 1)

a) 24 lbs in 8 wks

b) 3" of snow fell in 2 hrs

3 lbs per day

1.5" per hour

Answers

Notes: 3-2 Ratios & %s 1/5

Percent (%) = ratio out of 100

ex: 9 out of 100 US Senators = 9%

ex: $\frac{3}{10} \cdot \frac{10}{10} \xrightarrow{\text{equivalent fraction}} \frac{30}{100} = 30\%$

Try This:

1) a) Draw 3 out of 20

b) Express as a %

2) Express as a %:

a) $\frac{3}{5}$

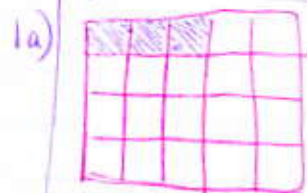
b) 1:10

3) % \rightarrow fraction
in simplest terms

a) 75%

b) 8%

Answers:



1b) $\frac{3}{20} = \frac{15}{100} = 15\%$

2a) $\frac{3}{5} = \frac{60}{100} = 60\%$

2b) 10%

3) a) $\frac{75}{100} = \left(\frac{3}{4}\right)$

b) $\frac{8}{100} = \left(\frac{2}{25}\right)$

HW: p106 #10, 12, 14 ; p110 #17, 21, 25